**MANAGING MAVERICKS**
IT mavericks are creative, passionate – and annoying. Learn to harness their energy. PAGE 50

**SHIFTING GEARS**
Borland abandons its traditional development-tool business to focus on application life-cycle management. PAGE 12


# COMPUTERWORLD

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FEBRUARY 13, 2006 ■ VOL. 40 ■ NO. 7 ■ $5/COPY


## CDC Upgrading IT to Gather Data From Hundreds of Hospitals

Project aims to help officials respond to potential pandemics, bioterrorism

BY HEATHER HAVENSTEIN

The Centers for Disease Control and Prevention has quietly begun working with 31 hospitals in 10 large cities to create a system that can send real-time data feeds from emergency rooms to the CDC.

The program, which aims to help officials prepare for and respond to a pandemic of avian flu or a bioterrorist attack, will add 350 hospitals to the list this year.

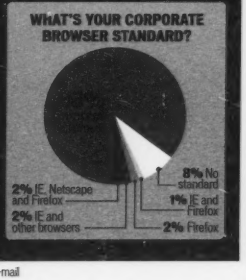
To support the program, the Atlanta-based federal agency has been scrambling to upgrade its IT infrastructure so it's capable of receiving and analyzing the massive influx of data.

At this point, the CDC's systems are about a month away from being able to analyze incoming data from the initial

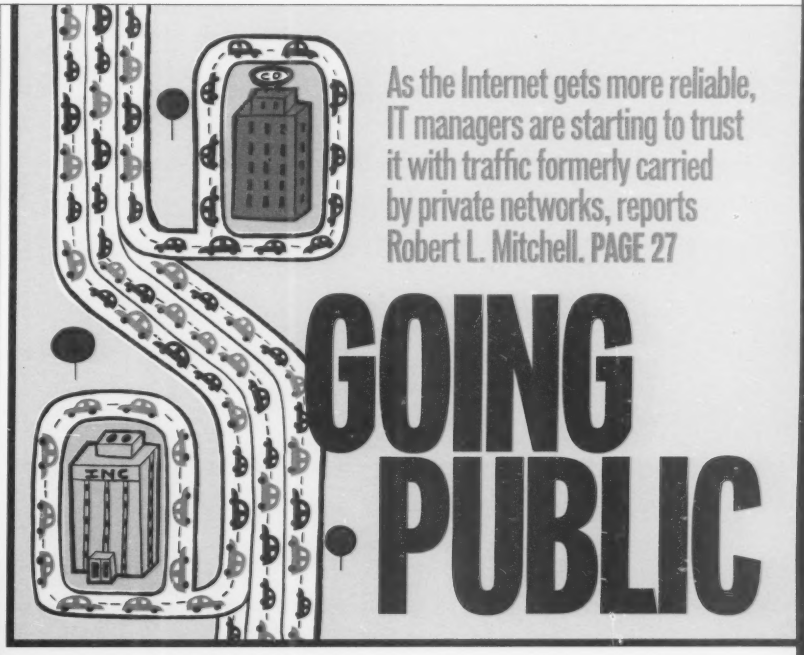
*CDC Data, page 57*

## Smoke, but Not Much Fire

**IN DEPTH** Boeing and Fidelity Investments are taking steps that could lead to broad internal use of the Firefox Web browser. Nearly half of 105 IT managers polled by *Computerworld* say they use Firefox themselves. But at least for now, the vast majority of their companies are sticking with Internet Explorer as their standard browser. Carol Sliwa reports on Firefox's lack of corporate adoption.


WHAT'S YOUR CORPORATE BROWSER STANDARD?
8% No standard
1% IE and Firefox
2% Firefox
2% IE, Netscape and Firefox
2% IE and other browsers

**BASE:** 105 IT managers polled by *Computerworld* via e-mail
**NOTE:** Percentages do not total 100 because of rounding.




As the Internet gets more reliable, IT managers are starting to trust it with traffic formerly carried by private networks, reports Robert L. Mitchell. PAGE 27

## GOING PUBLIC

## FBI Probes Hacking Incident at Indiana Clinic

Database changes made by intruder slowed system

BY JAIKUMAR VIJAYAN

A Fort Wayne, Ind.-based orthopedics clinic with more than a dozen facilities in the state has called in the FBI to investigate a hacking incident that highlights the dangers companies can face from the placement of hidden back doors in their software.

The case involves Orthopaedics Northeast, which last month suddenly began experiencing serious performance slowdowns with Webchart, a clinical document management system supplied to the clinic by Medical Informatics Engineering Inc., a health care software developer that's also based in Fort Wayne.

MIE, which no longer supports the clinic's Webchart installation, last week confirmed that it is part of the FBI's investigation. But it denied that it was involved in the hacking activities at the clinic, which is known informally as ONE.

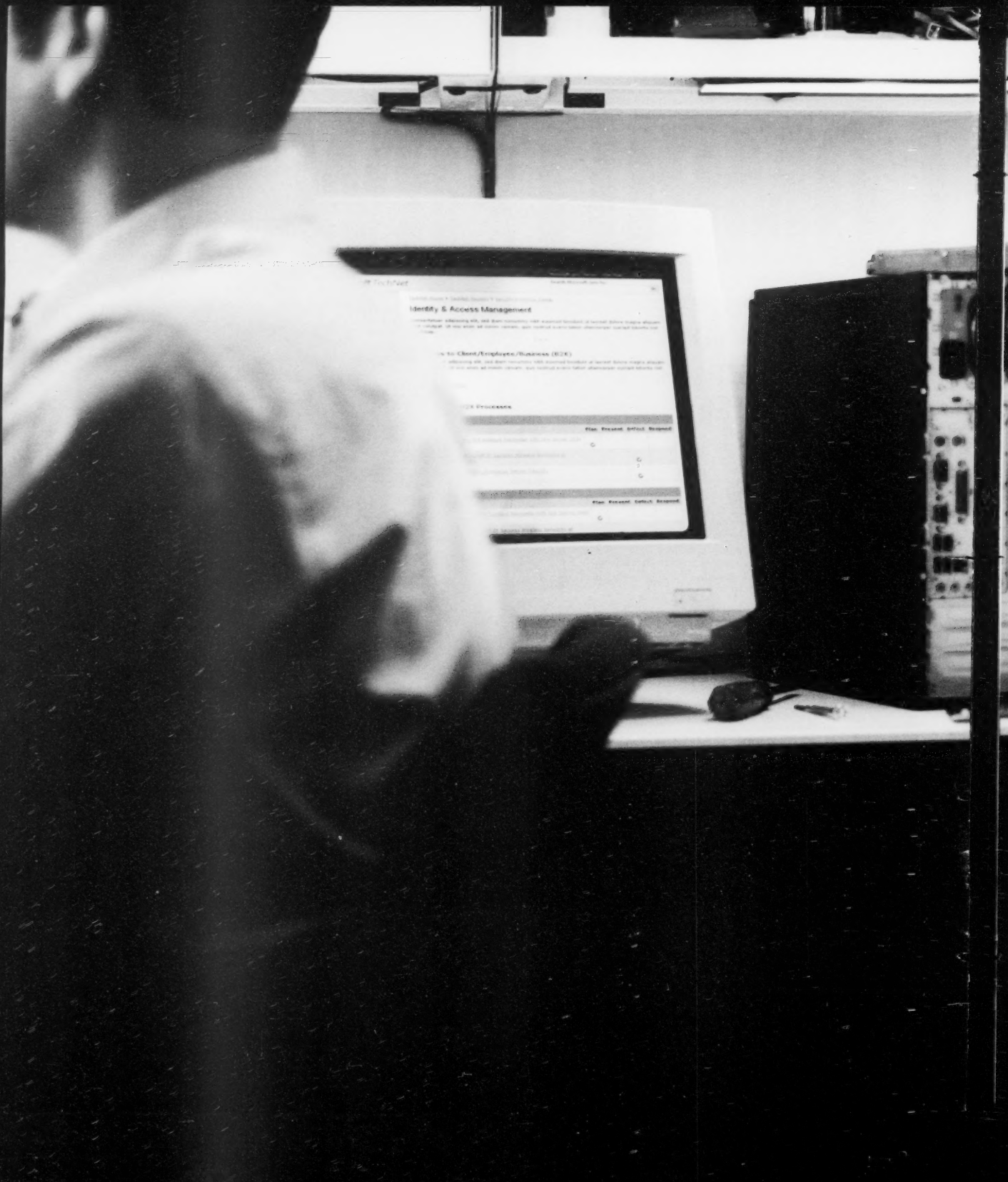
**INSIDE**
U.S. doctors faxed thousands of documents containing confidential patient data to a company in Manitoba. Page 10

The performance problems, which on one occasion caused the Webchart software to become totally inaccessible for several days, were eventually traced to deliberate changes made in the system's underlying MySQL database, according to Todd Plesko, CEO of triPractix LLC, a medical systems integrator that now manages the clinic's IT services.

The database changes were made by someone who illegally accessed the system nine times over a period of two weeks, initially via a back door using a hard-coded username and password, said Plesko,

*Back Door, page 57*

NEWSPAPER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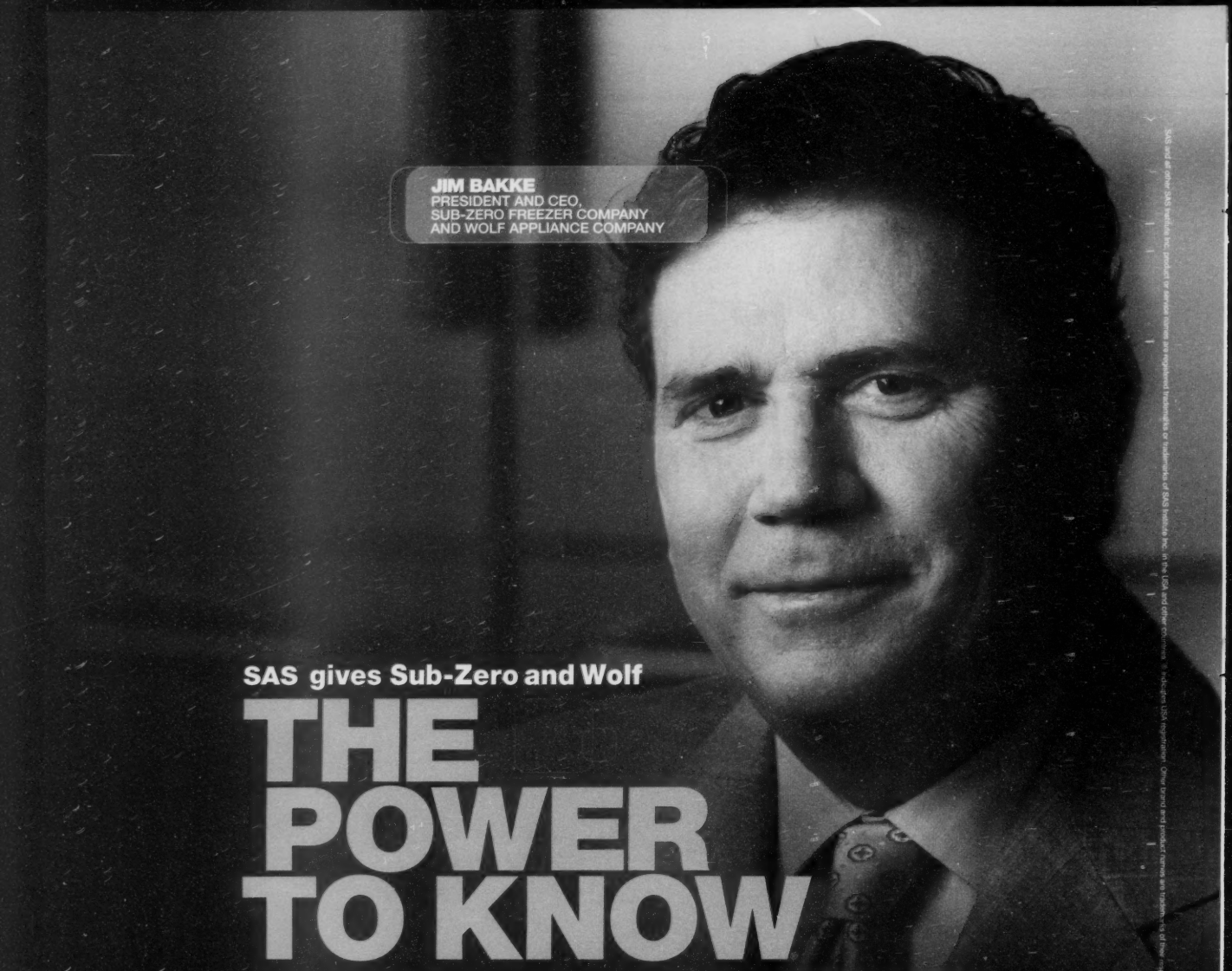


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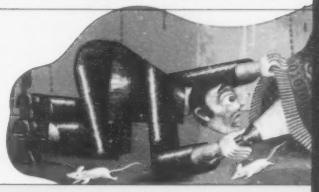
### Shining a Light On Maintenance

**In the Management section:** If you're used to sweeping IT wish-list items under the maintenance rug, you're probably spending more than you should on initiatives that aren't aligned with corporate priorities or ROI expectations. **Page 41**



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# Firefox Finds Cracking the Corporate Market to Be a Challenge

The open-source browser is making inroads at companies like Boeing and Fidelity, but most IT shops are sticking with Internet Explorer as their browser standard.

BY CAROL SLIWA

IN DEPTH

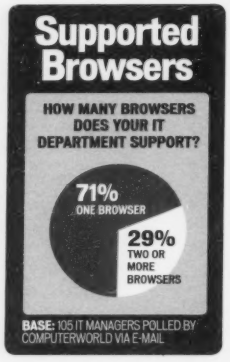
THE BOEING CO. has been discreetly providing feedback to the Mozilla Foundation for the past year or so on features that might encourage enterprise adoption of the open-source Firefox browser. At the top of the list has been a tool kit to help IT departments distribute Firefox with custom configurations to end users.

The Chicago-based aerospace company had good reason to express interest in such a tool. Last August, Boeing made Firefox one of its corporate Web browser standards alongside Microsoft Corp.'s Internet Explorer (IE) and a version of Netscape Navigator that is being sunsetted. Although Boeing hasn't deployed Firefox wide-scale and couldn't provide an estimate of the browser's usage within the company, the corporate standard decision sets it apart from most of its peers.

An ongoing pilot project at Fidelity Investments sets the financial services firm apart as well. The Fidelity Center for Applied Technology has spent more than a year exploring the enterprise readiness of Firefox and working behind the scenes with Mozilla to improve the browser's patching mechanism. Fidelity is now rolling out Firefox 1.5 to 1,900 users, primarily in IT, to kick off the project's third phase.

Such a formal pilot puts Fidelity in rare company. Statistics show that Firefox has chipped away at IE's dominance — for example, the open-source browser is nearing a 10% share among visitors to thousands of Web sites monitored by WebSideStory Inc. But there is scant evidence that Firefox is gaining broad acceptance at the corporate level.

In an e-mail poll conducted by *Computerworld* over the past two months, 86% of the 105 IT managers who responded listed IE as the sole browser standard at their companies. Only seven of the respondents reported having a multibrowser or non-Microsoft standard, and among those who did, the purpose generally was to support non-Windows desktop systems.




Mozilla officials, at least publicly, have been hard-pressed to point to any corporation that has broadly adopted Firefox — except IBM, a technical and financial contributor to the open-source project. IBM announced last year that it would offer Firefox as an option to its 330,000 users. So far, 18% have added the browser or its Mozilla predecessor to their systems, IBM said.

Despite the dearth of usage, there are signs that many IT managers welcome the challenge that Firefox is posing to Microsoft's ironclad grip on the browser market. In the *Computerworld* poll, 70% of the respondents said that Firefox is having a positive effect on the IT industry, and many said they were pleased to see that the heightened competition is pushing Microsoft to make improvements in IE 7.0, which is due later this year.

Nearly half of the respondents (45%) said they use Firefox as their sole browser or in addition to others, such as IE, Safari or Opera. And 21% said their IT departments have added support for Firefox.

But as much as they say they like competition and choice, few of the IT managers are taking action to deploy the open-source software on a formal or widespread basis.

Keith Glennan, Northrop Grumman Corp.'s chief technology officer, said he has often thought that the Los Angeles-based company should run Firefox instead of IE as its default browser. Glennan uses Firefox at home and especially likes its printing and tabbed browsing capabilities and its ease of navigation. But when he thinks about giving the browser to Northrop Grumman's 115,000 users, the decision boils down to economics.

"People say they want to have a healthier option in fast-

## Early Users Push Firefox Toward Enterprise Adoption

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For instance, Askew, senior vice president of the Fidelity Center for Applied Technology, said the company wanted a binary patching mechanism to avoid the expense of deploying an entire new release every time a security or bug fix was made available for Firefox.

With Firefox 1.5, which became available in late November, Fidelity finally got its wish, culminating months of discussions and collaboration between the company and the Mozilla Foundation. Askew said employees from his group met with Mozilla representatives several times in Boston and California to work on the binary patching feature.

"They weren't an organization that was used to working with enterprises, so it was very much a learning experience on both sides," he said. "We're the enterprise standards systems organization [within Fidelity]. They're a foundation. But we came together and really worked well with each other."

Mozilla typically focuses on consumer features, figuring that partners such as IBM, Novell Inc. and Red Hat Inc. are its "best route to enterprise success" because they're more attuned to corporate needs, said Mike Shaver, a technology strategist at Mozilla Corp., the nonprofit Mozilla Foundation's wholly owned development and distribution subsidiary.

> **"You had to jump through hoops if you were doing a robust corporate deployment."**
>
> **SCOTT VESEY,** WEB BROWSER COMPONENT MANAGER, THE BOEING CO.

IBM, for instance, has been leading the development of a Client Customization Kit (CCK) in an effort to help its own IT organization and IT shops at other large companies that want to deploy Firefox on a widespread basis. David Boloker, CTO for emerging Internet technology at IBM, said that some of the features in the CCK were the result of feedback from five or six companies that are already using a Version 0.8 beta release of the tool to produce custom configurations of Firefox.

"This is a big deal for anybody that is going to deploy [Firefox] in numbers," said Scott Vesey, Web browser component manager at Boeing. "Prior to this, if you wanted to do any customization, it was basically 'roll your own.' And the roll-your-own techniques would only get you partway there, so you had to jump through hoops if you were doing a robust corporate deployment."

Vesey said he wrote his own C++ code in the absence of the CCK and warned Mozilla that most IT departments wouldn't go to the trouble of creating custom tools to deploy Firefox. But the CCK won't be helpful to Boeing just yet. Although Vesey said the tool is usable in its present form, it's available only with Firefox 1.5. Boeing's current corporate standard for Firefox is Version 1.07, he noted.

– CAROL SLIWA

food restaurants, but then they buy Big Macs," Glennan said. "Maybe it's the same effect. I like the idea of Firefox, and I like using it, but it's not such a big deal to me that it drives me to demand something different. Clearly, Microsoft has a huge installed-base advantage here, and it's hard to overcome."

Glennan estimated that 5% of Northrop Grumman's employees use Firefox. He said that if the usage level creeps up to 10%, he might consider having the IT department support the browser.

In the meantime, Glennan is weighing the prospects of adding Firefox as an alternative standard in the event of a catastrophic problem with IE, or as an option for users who need to test code against Firefox. But there is no large-scale plan to push out multiple browsers on an enterprise-wide basis.

**"I like the idea of Firefox, and I like using it, but it's not such a big deal to me that it drives me to demand something different [as a corporate browser standard].**

**KEITH GLENNAN,** CTO, NORTHROP GRUMMAN

Randy Kortering, global information systems integration director at Haworth Inc. in Holland, Mich., said the office furniture maker considered Firefox because "Microsoft has a bull's-eye on it for malware writers," whereas the less widely deployed open-source browser gives them fewer potential victims. But in the end, Haworth's reliance on applications that use functionality in IE stopped it from moving past the consideration stage, he said.

Ron Cook, CTO at RadioShack Corp. in Fort Worth, Texas, faces the same dilemma. Some of the retail chain's older internal Web sites rely on ActiveX controls that run only with Microsoft's browser. Using Firefox would require users to log on multiple times, Cook said.

Software updates are another issue. RadioShack uses Microsoft's Windows Update services, and if it switched to Firefox, IT would have to come up with a different update mechanism, Cook noted.

"Bottom line is that none of these [issues] are a big deal, and they can all be worked around, but I don't yet have enough demand to justify the effort of working through these," he said. "If Firefox continues to gain market share and my internal customers reach a critical mass of wanting an alternative, we would look at the possibility."

Ray Valdes, an analyst at Gartner Inc., said that wholesale replacements of IE aren't a realistic possibility, since most organizations are too dependent on it for their Web pages, internally developed applications, commercial software packages and even the tools they use to administer their infrastructures.

Nonetheless, for years Gartner has advised its clients to either strive for a browser-agnostic strategy or adopt a multibrowser environment. Those approaches give companies more flexibility to take advantage of innovations, make them less vulnerable to security exploits and help ensure that their Web pages and applications will run in browsers other than IE, Valdes said.

The latter reason is what drove Boeing to add Firefox to its list of corporate browser standards. Scott Vesey, the company's Web browser component manager, said Boeing placed a high priority on conformance to World Wide Web Consortium (W3C) standards and, during its evaluation, found that Firefox did a better job of supporting certain standards than IE did. So Boeing decided to make the open-source browser available by request to any employee, division or regional unit that has a need for it, although IE will remain the only browser installed by default on all of the company's Windows-based computers.

"We're trying to aim for browser-neutral Web applications, so having a Web browser that's more conformant with W3C specifications is a step in the right direction," Vesey said. "If you're creating Web applications that are interoperable between IE and Firefox, the chances of getting caught in a legacy trap are diminished."

At Fidelity, the impetus for evaluating Firefox came from new features, such as tabbed browsing, that impressed staffers at the Center for Applied Technology, which identifies emerging technologies that might be useful across the enterprise. The center also works to build relationships with key vendors and open-source groups, and it placed Mozilla in that category. In addition, Firefox's Netscape pedigree gave the technology research group reason to think it would be an important piece of software, said Mike Askew, the center's senior vice president.

Fidelity launched Phase 1 of its Firefox pilot project in the second quarter of last year with 50 users who oversee public-facing Web sites. When they reacted positively, the company upped the user count to 300 for Phase 2, incorporating its "standard build process" to package the browser for distribution, Askew said.

With Phase 3, Fidelity will expand its compatibility checks to include intranet sites and internal applications, about 20% of which require tuning to work on multiple browsers, according to Askew. IE has been Fidelity's browser standard for at least eight years, and some internal sites make use of ActiveX components. Fidelity also will be looking to improve tagging to make its nearly 3 million intranet pages easier to search.

Askew said the next step will be looking at whether the company wants to deploy Firefox across its 57,000 desktops, likely under a dual-browser strategy, or focus only on the organizations that require multibrowser support. He expects a decision about the next phase to be made within eight months, in consultation with a technical steering committee.

If Fidelity does decide to deploy Firefox on an enterprise-wide scale, that would buck the expected corporate pattern. The emergence of a feature-comparable IE7 will effectively "close the henhouse" to Firefox, said Craig Roth, a consultant at DiamondCluster International Inc. in Chicago.

Gartner predicts that Firefox's share of the overall browser market will grow no higher than 30% by year's end and that its momentum will slow with the release of IE7. Valdes said IE7 likely will help IT managers who have considered adopting Firefox sleep better at night about their single-browser strategies. ▸

## Firefox Backers Hope for Boost From IE Upgrade

SOME OF THE COMPANIES that have standardized on Internet Explorer as their Web browser may find themselves in a dilemma when Microsoft releases Version 7.0, which is due later this year.

IE7 will be available only for the new Windows Vista operating system, also scheduled for release this year, and for Windows XP systems that have Microsoft's Service Pack 2 update installed on them.

That could make Firefox appealing to Windows 2000 users who want the features of a modern browser, said Mike Shaver, a technology strategist at Mozilla Corp., the development and distribution arm of the Mozilla Foundation. "Every time someone decides what kind of software they want to run, we have an opportunity," he said.

Mike Askew, senior vice president of the Fidelity Center for Applied Technology at Fidelity Investments, said the release of IE7 may also present a prime opportunity for companies to reassess their browser environment. For example, he noted that Fidelity will have to do some tweaking and tuning of internal applications to work with the new version of IE. "If there's anything that we can do at the same time to be a little bit more browser-independent, that's a good thing," he said.

**Standards**

**BASE:** 97 IT managers polled by *Computerworld* via e-mail, out of 105 total respondents. The other eight said they have no browser standard.

Gary Schare, director of IE product management at Microsoft, said Firefox "got a lot of people focused on the browser after a period of time where nobody really thought much interesting was happening" with the technology. But Microsoft isn't worried that users will view the launch of IE7 as a good excuse to consider defecting to Firefox, Schare said.

"We can ask why do they need an alternative?" he said. "What is their real reason for going to the new browser? And the answer is, I don't think a corporation can sit down with me and come up with a single reason why they would need to go to Firefox instead of using IE."

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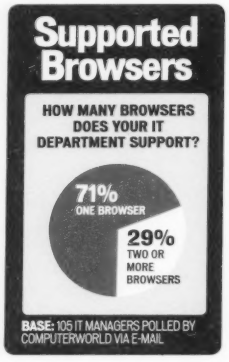


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>
> **SCOTT VESEY,** WEB BROWSER COMPONENT MANAGER, THE BOEING CO.

IBM, for instance, has been leading the development of a Client Customization Kit (CCK) in an effort to help its own IT organization and IT shops at other large companies that want to deploy Firefox on a widespread basis. David Boloker, CTO for emerging Internet technology at IBM, said that some of the features in the CCK were the result of feedback from five or six companies that are already using a Version 0.8 beta release of the tool to produce custom configurations of Firefox.

"This is a big deal for anybody that is going to deploy [Firefox] in numbers," said Scott Vesey, Web browser component manager at Boeing. "Prior to this, if you wanted to do any customization, it was basically 'roll your own.' And the roll-your-own techniques would only get you partway there, so you had to jump through hoops if you were doing a robust corporate deployment."

Vesey said he wrote his own C++ code in the absence of the CCK and warned Mozilla that most IT departments wouldn't go to the trouble of creating custom tools to deploy Firefox. But the CCK won't be helpful to Boeing just yet. Although Vesey said the tool is usable in its present form, it's available only with Firefox 1.5. Boeing's current corporate standard for Firefox is Version 1.07, he noted.

– CAROL SLIWA

food restaurants, but then they buy Big Macs," Glennan said. "Maybe it's the same effect. I like the idea of Firefox, and I like using it, but it's not such a big deal to me that it drives me to demand something different. Clearly, Microsoft has a huge installed-base advantage here, and it's hard to overcome."

Glennan estimated that 5% of Northrop Grumman's employees use Firefox. He said that if the usage level creeps up to 10%, he might consider having the IT department support the browser.

In the meantime, Glennan is weighing the prospects of adding Firefox as an alternative standard in the event of a catastrophic problem with IE, or as an option for users who need to test code against Firefox. But there is no large-scale plan to push out multiple browsers on an enterprise-wide basis.

**"I like the idea of Firefox, and I like using it, but it's not such a big deal to me that it drives me to demand something different [as a corporate browser standard].**

**KEITH GLENNAN,** CTO, NORTHROP GRUMMAN

Randy Kortering, global information systems integration director at Haworth Inc. in Holland, Mich., said the office furniture maker considered Firefox because "Microsoft has a bull's-eye on it for malware writers," whereas the less widely deployed open-source browser gives them fewer potential victims. But in the end, Haworth's reliance on applications that use functionality in IE stopped it from moving past the consideration stage, he said.

Ron Cook, CTO at RadioShack Corp. in Fort Worth, Texas, faces the same dilemma. Some of the retail chain's older internal Web sites rely on ActiveX controls that run only with Microsoft's browser. Using Firefox would require users to log on multiple times, Cook said.

Software updates are another issue. RadioShack uses Microsoft's Windows Update services, and if it switched to Firefox, IT would have to come up with a different update mechanism, Cook noted.

"Bottom line is that none of these [issues] are a big deal, and they can all be worked around, but I don't yet have enough demand to justify the effort of working through these," he said. "If Firefox continues to gain market share and my internal customers reach a critical mass of wanting an alternative, we would look at the possibility."

Ray Valdes, an analyst at Gartner Inc., said that wholesale replacements of IE aren't a realistic possibility, since most organizations are too dependent on it for their Web pages, internally developed applications, commercial software packages and even the tools they use to administer their infrastructures.

Nonetheless, for years Gartner has advised its clients to either strive for a browser-agnostic strategy or adopt a multibrowser environment. Those approaches give companies more flexibility to take advantage of innovations, make them less vulnerable to security exploits and help ensure that their Web pages and applications will run in browsers other than IE, Valdes said.

The latter reason is what drove Boeing to add Firefox to its list of corporate browser standards. Scott Vesey, the company's Web browser component manager, said Boeing placed a high priority on conformance to World Wide Web Consortium (W3C) standards and, during its evaluation, found that Firefox did a better job of supporting certain standards than IE did. So Boeing decided to make the open-source browser available by request to any employee, division or regional unit that has a need for it, although IE will remain the only browser installed by default on all of the company's Windows-based computers.

"We're trying to aim for browser-neutral Web applications, so having a Web browser that's more conformant with W3C specifications is a step in the right direction," Vesey said. "If you're creating Web applications that are interoperable between IE and Firefox, the chances of getting caught in a legacy trap are diminished."

At Fidelity, the impetus for evaluating Firefox came from new features, such as tabbed browsing, that impressed staffers at the Center for Applied Technology, which identifies emerging technologies that might be useful across the enterprise. The center also works to build relationships with key vendors and open-source groups, and it placed Mozilla in that category. In addition, Firefox's Netscape pedigree gave the technology research group reason to think it would be an important piece of software, said Mike Askew, the center's senior vice president.

Fidelity launched Phase 1 of its Firefox pilot project in the second quarter of last year with 50 users who oversee public-facing Web sites. When they reacted positively, the company upped the user count to 300 for Phase 2, incorporating its "standard build process" to package the browser for distribution, Askew said.

With Phase 3, Fidelity will expand its compatibility checks to include intranet sites and internal applications, about 20% of which require tuning to work on multiple browsers, according to Askew. IE has been Fidelity's browser standard for at least eight years, and some internal sites make use of ActiveX components. Fidelity also will be looking to improve tagging to make its nearly 3 million intranet pages easier to search.

Askew said the next step will be looking at whether the company wants to deploy Firefox across its 57,000 desktops, likely under a dual-browser strategy, or focus only on the organizations that require multibrowser support. He expects a decision about the next phase to be made within eight months, in consultation with a technical steering committee.

If Fidelity does decide to deploy Firefox on an enterprise-wide scale, that would buck the expected corporate pattern. The emergence of a feature-comparable IE7 will effectively "close the henhouse" to Firefox, said Craig Roth, a consultant at DiamondCluster International Inc. in Chicago.

Gartner predicts that Firefox's share of the overall browser market will grow no higher than 30% by year's end and that its momentum will slow with the release of IE7. Valdes said IE7 likely will help IT managers who have considered adopting Firefox sleep better at night about their single-browser strategies.

## Firefox Backers Hope for Boost From IE Upgrade

SOME OF THE COMPANIES that have standardized on Internet Explorer as their Web browser may find themselves in a dilemma when Microsoft releases Version 7.0, which is due later this year.

IE7 will be available only for the new Windows Vista operating system, also scheduled for release this year, and for Windows XP systems that have Microsoft's Service Pack 2 update installed on them.

That could make Firefox appealing to Windows 2000 users who want the features of a modern browser, said Mike Shaver, a technology strategist at Mozilla Corp., the development and distribution arm of the Mozilla Foundation. "Every time someone decides what kind of software they want to run, we have an opportunity," he said.

Mike Askew, senior vice president of the Fidelity Center for Applied Technology at Fidelity Investments, said the release of IE7 may also present a prime opportunity for companies to reassess their browser environment. For example, he noted that Fidelity will have to do some tweaking and tuning of internal applications to work with the new version of IE. "If there's anything that we can do at the same time to be a little bit more browser-independent, that's a good thing," he said."

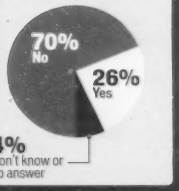
Gary Schare, director of IE product management at Microsoft, said Firefox "got a lot of people focused on the browser after a period of time where nobody really thought much interesting was happening" with the technology. But Microsoft isn't worried that users will view the launch of IE7 as a good excuse to consider defecting to Firefox, Schare said.

"We can ask why do they need an alternative?" he said. "What is their real reason for going to the new browser? And the answer is, I don't think a corporation can sit down with me and come up with a single reason why they would need to go to Firefox instead of using IE."

– CAROL SLIWA

### Standards

**HAVE YOU CONSIDERED ALTERNATIVES TO YOUR CURRENT BROWSER STANDARD?**




**BASE:** 97 IT managers polled by *Computerworld* via e-mail, out of 105 total respondents. The other eight said they have no browser standard.

# AT DEADLINE

## Oracle to Cut 2k Jobs As It Absorbs Siebel

Oracle Corp. will lay off 2,000 workers as it integrates the recently acquired Siebel Systems Inc. into its organization. Oracle said that the cutbacks will occur throughout the company and that it expects to retain 90% of Siebel's support and development engineers, sales representatives and technical sales consultants. Oracle's workforce will total about 55,000 when the layoffs are completed.

## Microsoft to Issue Two Critical Patches

Microsoft Corp. this week will release seven patches for several of its software products, including at least two critical updates for known vulnerabilities. The Patch Tuesday batch will include four updates for Windows, including one rated critical. The company is also releasing a critical patch for the Microsoft Windows Media Player. At the same time, Microsoft will bring out a new version of its Windows Malicious Software Removal Tool.

## NTT Finishes Secure Messaging System

Engineers at NTT Communications Corp. have developed a secure instant messaging system that supports logging and archiving of messages to comply with regulations and can interact with some third-party IM networks. The system, expected to ship by early next year, includes an IM server through which all communication passes.

## Microsoft Buys Web Filtering Package

Microsoft has agreed to buy the DynaComm i:filter Web-filtering software from FutureSoft Inc. in Houston. DynaComm i:filter allows IT administrators to filter content coming through a company's network. Microsoft also released a beta of the next version of its firewall and virtual private network product, Internet Security and Acceleration Server 2006.

# ON THE MARK

**HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ** BY MARK HALL

# Tech Crowd Struts Its Stuff . . .

**. . . at the Demo 2006 conference with an eye to the near future.** You didn't have to wander far in the tightly packed pavilion on the grounds of the sprawling Pointe South Mountain Resort in Phoenix last week to get a glimpse of the gadgets, software and services that were being rolled out for IT's sharp-eyed perusal. And there was a little something for everybody.

Let's say you've got monster databases that your end users want to paw through to find bits of gold for the business.

BALL: Analyze massive databases quickly.

The folks at Panoratio Database Images Inc., a Siemens AG spin-off based in Munich, were showing off their .pdi Generator and .pdi Explorer tools, which can sort and display enormous data sets. How big? Well, Cal Ball, vice president of sales and marketing at Panoratio's U.S. headquarters in San Francisco, was analyzing every play ever run in the National Football League along 110 dimensions — everything from the weather, missed tackles and whether there was a blitz or regular pass defense during the play. And he was getting answers instantly as he clicked through different parameters. That would be impressive enough if Ball was running the data on some fancy-schmancy eight-way server. But the files created by Generator and shown in the Explorer client were firing on a beat-up old 32-bit laptop. Michael Haft, Panoratio's chief technology officer, says that by late this year, the software will be able to handle vastly larger data sets even faster when Explorer is ported to 64-bit systems. By the way, Ball claims that he knew the Pittsburgh Steelers would win the Super Bowl. Pittsburgh is 8-0 in indoor games when the game-time temperature is between 66 and 70 degrees, he says. Super Bowl XL was played at 68 degrees. Bookies, take note.

## Don't deploy a wireless LAN . . .

**. . . with lowest-common-denominator technology.** That's when lower-speed 802.11b devices drag down performance for end users with 802.11g hardware, says David Confalonieri, vice president of corporate marketing at Extricom Inc. in New York. The Wi-Fi standard's backward-compatibility requirement devolves an entire WLAN to 802.11b speeds when a slower device hits your 802.11g network, Confalonieri says. But, he adds, you can forget that concern next month, after Extricom ships new AnyBand AnyMode Dual Channel software for its EXSW switches. What's more, since the company's WLAN access points are all managed through the switches, you can configure them so they create a single channel, eliminating handoff problems for end users between access points. An eight-port switch starts at $10,000 with an equal number of access points. More than a few Demo participants probably wish Extricom had started shipping the software earlier, given the occasional snafus involving wireless network troubles at the conference. Perhaps then the common lament about wireless problems wouldn't have followed the occasional Demo demo disaster.

MATTHEW FAULKNER

Extricom's 24-port switch prevents 802.11g slowdowns.

## Database failures are so . . .

**. . . yesterday, thanks to virtualization.** Alan McMillan, CEO of Toronto-based Avokia Inc., had words of hope for Demo attendees worried about Web application reliability: "True continuous availability of databases is possible by virtualizing the data layer." Avokia protects online transactions by running its apLive software on an application server. The software grabs the reads and writes before they hit the database, caches them and then immediately sends the data to fail-over systems that can be located more than 1,000 miles away. McMillan claims that no data is ever lost, even if there is a hard crash of your primary database server. He also estimates that by using apLive, you can reduce the number of servers needed for applications by more than half. Avokia's tool works with DB2, Informix, MySQL, Oracle, SQL Server and Sybase databases. It's written in Java, but Avokia will add a .Net version in June. Pricing is $225,000 per application for up to 32 CPUs.

## Help your help desk to help hapless . . .

**. . . end users.** You can start by considering giving help desk staffers the Support Appliance from NetworkStreaming Inc. in Ridgeland, Miss. End users who click on a help desk button on their PCs are directed to the appliance, which asks them if they're willing to download a one-time plug-in for the help desk session. Problem notifications are put into the queues of help desk personnel, who can take control of PCs remotely and either solve the problems or escalate them to someone else. CEO Joel Bomgaars says Version 9.0 of the appliance's software, which was previewed at Demo, will let end users describe their problems through pull-down menus and text entries. The upgrade, which is scheduled to ship at the end of the first quarter, can handle up to 20 help desk staffers concurrently. Pricing for the appliance starts at $3,500 with a single concurrent-user license.

NetworkStreaming's appliance queues up PC problems for help desk staffers.

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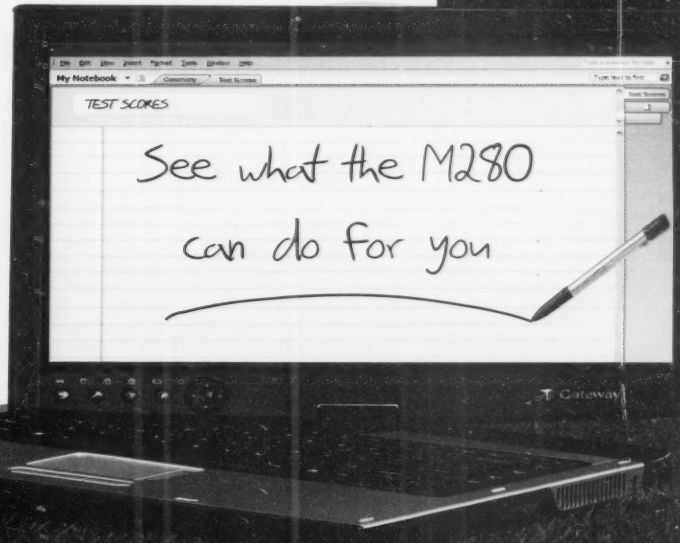


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*IT Week*, January 23, 2006

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## BRIEFS

### Iomega Announces CEO's Resignation

Iomega Corp. CEO Werner Heid has resigned from the firm. Heid, who had headed the struggling storage company since 2001, will be replaced on an interim basis by Iomega Chairman Stephen David. The company did not disclose a reason for Heid's departure. Iomega expects severance payments to Heid to total about $950,000, according to filings with the U.S. Securities and Exchange Commission.

### Novell to Support Virtual Iron Software

Novell Inc. has agreed to provide start-up Virtual Iron Software Inc. with support for its data center virtualization and management software. The software will ship as a preconfigured kernel with the latest version of Novell's enterprise-level SUSE Linux operating system. Novell said it plans to include the Virtual Iron kernel in SUSE Linux Enterprise Server Version 10, which is due out at the end of May.

### Johns Hopkins Awards Pact to ACS

Johns Hopkins HealthCare has awarded a business process outsourcing contract to Affiliated Computer Services Inc. to provide call center services. Starting this month, ACS will be responsible for the general management and operations of the dedicated JHHC call center in Indianapolis under a three-year contract. The center handles a subset of Medicaid calls for the health care provider.

### HP Agrees to Buy Software Vendor

Hewlett-Packard Co. has agreed to purchase OuterBay Technologies Inc., a privately held maker of database archiving software. OuterBay has a long-standing reseller relationship with HP rival EMC Corp. Officials of both HP and EMC said that relationship will continue. HP did not disclose the value of the deal for OuterBay.

# Fax Mix-ups Send Patients' Data to Wrong Company

## U.S. doctors send claims to Canadian firm for 15 months

BY JAIKUMAR VIJAYAN

FOR THE past 15 months, a small distributor of herbal remedies in Manitoba has been mistakenly receiving faxes containing confidential data about hundreds of patients covered by Prudential Financial Inc.'s insurance group from doctors and medical clinics in the U.S.

The information exposed in the breach includes Social Security numbers, bank account data and detailed medical histories, according to Jody Baxmeyer, vice president of marketing at North Regent Rx, the company that has been receiving the faxes.

Baxmeyer said the situation stems from the fact that North Regent's toll-free fax number is nearly identical to one used by Prudential to collect information related to medical claims from doctors across the U.S. The two numbers differ by only one digit, he noted.

As a result, Baxmeyer said, thousands of documents involving more than 1,000 claims have been misdirected to North Regent's office in Lockport, Manitoba, despite attempts by the company to stop the flow of faxes.

North Regent contacted Prudential about the problem in October 2004 — when the distributor first began operations — and then followed up last April after it didn't get an initial response from the insurer, Baxmeyer said.

"Prudential's point of view was that 'we are not the ones faxing the information,' which is ridiculous," he said. "They're the ones that solicited the business from doctors and clinics, and they're the ones setting up the protocols for receiving the information."

### Responsibility Debate

In a statement sent via e-mail last week, Prudential defended itself, saying that the problems are the result of clerical errors by senders. "Prudential Financial's fax number is accurately listed on all of our forms and communications," it said.

John Pescatore, an analyst at Gartner Inc., agreed that Prudential can't be held responsible for mistakes made by others. "In this case, the person who is sending out the information is the one that's responsible," he said.

Faxes containing sensitive information often have disclaimers instructing recipients to either destroy the faxes or contact the sender in case they are sent to the wrong person, Pescatore said, adding that it is the responsibility of the recipient to follow such instructions.

Initially, North Regent contacted doctors' offices, clinics and even patients directly when it received a fax meant for Prudential, Baxmeyer said. But the company didn't have the resources to continue doing so. "It became a point of distraction for us," he said. "It would have taken an effort that we were not capable of."

According to Baxmeyer, last April North Regent offered to sell its toll-free number to Prudential for a fee that was "just enough" to cover the costs of acquiring and publicizing a new toll-free fax number for the distributor. Another option North Regent suggested was for Prudential to give it some sort of legal protection for receiving the unsolicited confidential information, he said.

Both requests were turned down by Prudential, which instead asked North Regent to simply forward all of the faxes it received via prepaid mail, Baxmeyer said. Prudential also informed North Regent that it had sent out a memo urging doctors' offices and clinics to use extra caution when sending claims via fax.

"It's ridiculous to be sharing information that is sensitive in nature, whether it's financial or medical, by the use of faxes," Baxmeyer said. "We want Prudential to realize that their technology is out of date and [that] they are not paying attention." ▸

### Model Practices

As part of its HIPAA compliance efforts, Columbia University Medical Center has adopted the following requirements for faxing protected health information:

- **Employees must confirm with the intended recipient that the receiving fax machine is located in a secure area.**
- **To minimize misdialing errors, fax machines will be preprogrammed with the fax numbers of recipients to which protected data is frequently sent.**
- **When fax numbers are entered manually, employees must visually check the number for accuracy on the fax machine's display.**

## Insurer Puts Social Security Numbers in the Mail

**BLUE CROSS** and Blue Shield of North Carolina said last week that "human error" caused the Social Security numbers of more than 600 of its members to be printed on the mailing labels of envelopes sent to those patients.

The mistake affected patients who had applied for a new health savings account insurance plan, said Gayle Tuttle, a spokeswoman for the Chapel Hill-based insurer. Tuttle said the mailing label on a welcome letter that was sent out to 629 people contained a tracking number with 11 digits, nine of which were the members' Social Security numbers.

As part of a broader bid to enhance data privacy, Blue Cross has been using new subscriber numbers instead of Social Security numbers to identify patients, Tuttle said. Even so, there is still a "linking" that goes on internally between the subscriber IDs and Social Security numbers, and that may have contributed to the error, she said.

The problem was discovered on Jan. 30, and two days later, letters were sent to the affected individuals informing them of the security breach. "We are taking this very seriously," Tuttle said. "But this affects only a very tiny percentage of our members."

In the wake of the incident, Blue Cross is looking at its internal processes to see how such mistakes can be avoided in the future, Tuttle said without elaborating.

The breach at Blue Cross is similar to one involving *The Boston Globe* two weeks ago and another case involving tax preparer H&R Block Inc. in Kansas City, Mo.

In the *Globe* incident, information about more than 200,000 subscribers was inadvertently exposed when the *Worcester Telegram & Gazette*, a sister publication in Worcester, Mass., reused paper containing names, credit card numbers and bank account information to print routing labels that were attached to newspaper bundles.

In mid-December, H&R Block accidentally embedded Social Security numbers in 47-digit tracking numbers on packages used to mail free copies of its TaxCut software to former clients as part of a marketing campaign.

The breach was reported by someone who received a package, and letters were sent to all of the affected individuals on Dec. 22, according to H&R Block spokeswoman Denise Sposato.

The snafu was the result of an "inadvertent human error," Sposato said. H&R Block has completed an investigation into what happened and has fixed the problem, she said, declining to provide further details.

– JAIKUMAR VIJAYAN

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## BRIEFS

### Inouye Resigns As Gateway CEO

Gateway Inc. President and CEO Wayne Inouye has resigned to pursue other interests. Richard Snyder, Gateway's chairman of the board and former president and chief operating officer, will serve as acting CEO during the search for a replacement, which is expected to be completed by the end of the third quarter. Inouye joined the firm in March 2004, after Gateway acquired eMachines Inc., where he had been CEO since 2001.

### Nortel Agrees to $2.5B Settlement

Nortel Networks Corp. has reached a proposed settlement worth about $2.5 billion in cash and stock with the lead plaintiffs in two class-action lawsuits over the network equipment maker's misstated financial results for several years leading up to 2003. Under the proposed agreement, Nortel would pay $575 million in cash and issue nearly 630 million common shares currently valued at about $2 billion.

### Cisco Profit Declines Despite Sales Growth

Cisco Systems Inc. reported slightly lower profits on a 9.3% increase in sales for the quarter. Cisco cited growing adoption of converged voice, video and data networks for the sales increase.

CISCO BY THE NUMBERS

| | REVENUE | PROFIT |
|---|---|---|
| Q2 '06 | $6.6B | $1.37B |
| Q2 '05 | $6.1B | $1.4B |

### Business Objects To Buy Firstlogic

Business Objects SA has agreed to buy Firstlogic Inc., a maker of enterprise data-quality software, for $69 million. Business Objects said the deal, which is expected to close in the second quarter, will expand its product line for users looking to standardize on a single platform. The two firms have been partners since 2004.

# Borland Changes Course, Plans To Abandon Development Tools

## To buy Segue Software, focus on ALM products

BY HEATHER HAVENSTEIN

BORLAND SOFTWARE Corp.'s plan to abandon the development tool business to focus on its application life-cycle management (ALM) products found support among some users that are looking to manage software development as a process.

Borland outlined its latest strategy last week when it disclosed plans to divest its integrated development environment (IDE) business and acquire Lexington, Mass.-based Segue Software Inc. for $100 million. Segue sells software quality assurance and testing tools that Borland will add to its ALM offerings.

The strategy shift comes about five years after the development tool pioneer retook the Borland name following a failed two-year effort to broaden its product portfolio as Inprise Corp.

Borland officials said they have already discussed the sale of the development tools — Delphi, C++Builder, C#Builder and JBuilder — with potential buyers and expect to complete the process over the next two quarters. Borland has retained New York-based Bear, Stearns & Co. to manage the sales process.

### Target Companies

Borland's ALM strategy targets companies like Knoxville, Tenn.-based retailer Jewelry Television (JTV), which is already relying heavily on Segue's quality assurance and testing products in a new project to replace 98% of its enterprise software with Web services.

The project, which calls for JTV to replace homegrown supply chain software with Web services by September, is in the requirements-gathering phase, said Chris Meystrik, vice president of software engineering at the company.

> **"Process improvement breeds more process improvement, and the more a tool can do to facilitate that, the better off the development organization is."**
>
> **ADINA KRAM,** RELEASE COORDINATOR, THOMSON ELITE

"We will have no more [enterprise] applications in our company, period," he said.

The company has been evaluating Borland tools for the project, but no purchase decision has been made, he said.

Adina Kram, a release coordinator at Los Angeles-based Thomson Elite, uses Borland's StarTeam change and configuration management tool and hopes the company's new focus will lead to more tools to help manage Thomson's processes.

"Process improvement breeds more process improvement, and the more a tool can do to facilitate that, the better off the development organization is," she said.

Tod Nielsen, Borland's president and CEO, said the move to divest the IDE business will allow the company to focus on the "next major wave of opportunity" in software development — the transition from a series of isolated activities to a managed process.

"Borland is spread too thin across a diverse product portfolio, which has negatively impacted our best efforts to execute across ALM," he said.

Melinda Ballou, an analyst at IDC in Framingham, Mass., said the Segue acquisition helps fill out Borland's ALM portfolio of products by adding testing and the process for quality assurance and optimization.

"They have the right vision — execution is going to be a tough one," she said, noting that competition includes IBM, CA Inc., Mercury Interactive Corp. and Compuware Corp.

# Oracle Unveils Transportation Manager

## Former Global Logistics app replaces two Oracle offerings

BY MARC L. SONGINI

Oracle Corp. last week unveiled a transportation management application for its E-Business Suite 11i that is based on technology it gained when it bought supply chain and logistics management software maker Global Logistics Technologies Inc. last fall.

The new Transportation Management software, which offers out-of-the-box integration with E-Business Suite 11i-based workflows, replaces two older Oracle offerings, Transportation Planning and Transportation Execution, said Mark Johnson, Oracle's senior director of product marketing.

Rob Porterfield, vice president of manufacturing at National Instruments Corp. in Austin, said he has been evaluating the software during his search for a new transportation application. The company already runs Oracle CRM business applications.

Adrian Gonzalez, an analyst at ARC Advisory Group Inc., a Dedham, Mass.-based consulting firm, said the replacement of Oracle's older transportation application reflects the vendor's desire to deliver a seamless product that fits into the 11i suite.

"Will users care that the name has changed? No," said Gonzalez. However, users seeking a "holistic" logistics application that handles warehouse management and can deliver supply chain visibility will be interested in how quickly Oracle can tie together all the various components of the Global Logistics software.

The new Transportation Management offering supports, among other things, order entry, procurement and supply chain event management processes.

Integration with the E-Business Suite will be phased in during the next year, Johnson said. The Transportation Management software will not include links to Oracle's PeopleSoft or J.D. Edwards applications, he said.

Oracle Transportation Management is available either as part of the E-Business Suite or as a stand-alone product. Pricing for Transportation Manager starts at $14,000. The product is available now.

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# GLOBAL DISPATCHES

An International IT News Digest

## EC Rejects Microsoft's Bid to Extend Deadline

**BRUSSELS**

MICROSOFT CORP. this week could make history of a sort by becoming the first company to be hit by the European Commission with daily fines for failing to comply with an antitrust ruling.

The EC last week rejected Microsoft's request to extend from Wednesday to Feb. 28 the deadline for the company to show that it's complying with the commission's March 2004 antitrust edict or face fines of up to €2 million ($2.4 million U.S.) per day.

Microsoft claims that its January offer to open up access to some of the Windows communications protocols went far beyond what the EC is mandating. But the EC has retorted that the offer doesn't fully meet its criteria, and sources said that EC Competition Commissioner Neelie Kroes has run out of patience with the company.

The commission raised the specter of daily fines on Dec. 22, when it sent Microsoft a "statement of objections" detailing the vendor's continued lack of compliance.

Microsoft argues that it hasn't received information it needs in order to answer the EC's charges. "It has been six weeks since we received the statement of objections, and we still do not have access to the case file," a Microsoft spokesman said. "This is a basic question of fairness and transparency."

■ SIMON TAYLOR, IDG NEWS SERVICE

**GLOBAL FACT**

**$1.2B**

**Estimated size of the Chinese market for semiconductor assembly and test services last year, up 28.4% from the 2004 level.**

SOURCE: GARTNER INC., STAMFORD, CONN.

## Manual Mapping Slows Data Integration Effort

**BRISBANE, AUSTRALIA**

THE PROCESS of integrating 400,000 customer records following the Jan. 1 merger of Credit Union Australia Ltd. (CUA) and Australian National Credit Union (ANCU) is being slowed by manual data-mapping requirements.

Barry Los, CIO of the merged company, which adopted the CUA name, said data is being migrated from the ANCU's financial applications to the CUA's mainframe-based system. Los didn't disclose the cost of the integration effort, saying only that the primary expense will be for consulting.

John Brand, an analyst at Sydney-based market research firm Hydrasight P/L, said integration projects that follow mergers are a CIO's "worst nightmare" because of the complexity of the data sets that need to be combined.

■ RODNEY GEDDA, COMPUTERWORLD TODAY (AUSTRALIA)

## Hitachi Expands Its IT Consulting Operations

**LONDON**

HITACHI LTD. last week said it plans to create an IT consulting unit in Europe and add more than 2,000 consultants worldwide.

Hitachi Consulting Europe Ltd. will open for business in March and be based in London. Hitachi said the new operation will initially do business in the U.K., Spain and Portugal and then expand into France, Germany and other countries in 2007.

The consulting services that the unit plans to offer will include helping companies set their IT management strategies and building, operating and maintaining IT systems.

Hitachi currently has about 950 IT consultants, most of them in the U.S. and Japan. The Tokyo-based company didn't disclose a breakdown of where it plans to add employees.

■ NANCY GOHRING, IDG NEWS SERVICE

*Compiled by Mike Bucken.*

## Briefly Noted

**Turbolinux Inc. in Tokyo plans to create a joint venture with New Delhi-based India Action Plan Co. in an effort to expand its presence in India. Turbolinux India Pte. will be based in Gurgaon, India. It's slated to open in April, and its workforce is expected to total about 15 people by the end of its first year of operations.**

■ SUMNER LEMON, IDG NEWS SERVICE

**The Spanish Armed Forces (SAF) have signed a $1 million contract to use Sunnyvale, Calif.-based Savi Technology Inc.'s Consignment Management Solution technology. CMS includes an active-tag radio frequency identification network that can link to networks that Savi has deployed for NATO, the U.S. Department of Defense and the militaries of the U.K. and other countries. The SAF's implementation is due to be operational by midyear.**

**The New Zealand State Services Commission has awarded IBM a contract to be the preferred supplier of network management tools and services for the Government Shared Network, which will link the country's government agencies. The value of the deal wasn't disclosed.**

■ STEPHEN BELL, COMPUTERWORLD NEW ZEALAND ONLINE

# RIM Details Planned BlackBerry Work-around

**BY MATT HAMBLEN**

Research In Motion Ltd. last week disclosed detailed information about a software work-around that the company claims will enable it to continue to support BlackBerry users in the U.S. if a federal judge orders a shutdown of the current version of the wireless e-mail service.

RIM said it will "soon" begin shipping the work-around in latent mode on BlackBerry devices as part of a software update called the BlackBerry Multi-Mode Edition. The update won't be activated by RIM unless Judge James Spencer, who is overseeing a patent infringement lawsuit filed against the company by NTP Inc., imposes an injunction against BlackBerry usage.

The work-around will also be made available for download by current users at "a later date for free," RIM said. If the multimode software is activated, it will modify the underlying elements of the BlackBerry message delivery system in order to avoid NTP's patent claims, the Waterloo, Ontario-based vendor noted. But the changes will be invisible to end users and should have only a minor effect on the work of systems administrators and application developers, RIM added.

Joe Puglisi, CIO at Emcor Group Inc. in Norwalk, Conn., had been weighing technology alternatives for his 500 BlackBerry users. But after reviewing RIM's announcement, Puglisi said he has put all his contingency plans aside.

"I am now more confident than ever that RIM's service will not be interrupted," he said.

John Halamka, CIO at CareGroup Healthcare System and Harvard Medical School in Boston, said he also is confident that the BlackBerry service will continue to be available. Halamka said he sees the proposed work-around as being "seamless to the user . . . [with] low impact on the IT infrastructure and staff."

RIM said administrators may notice additional log entries in its BlackBerry Enterprise Server software related to the queueing of messages when users are outside of coverage areas. But there will be no other visible changes, it added.

The planned software update will include a "standard mode" that works the same way the BlackBerry service does now, plus a "U.S. mode" that RIM could automatically switch users to via its network operations center.

Ken Dulaney, an analyst at Gartner Inc., said the work-around indeed appears to affect nothing more than the out-of-coverage e-mail queueing process cited by RIM.

But Dulaney added that the legal impact of the work-around will remain unclear until NTP reacts and Judge Spencer rules on whether RIM's maneuver avoids further infringement. "We see the work-around as a negotiating ploy and have always said that, so we will still remain hopeful for a settlement," Dulaney said.

NTP officials didn't comment about the work-around beyond pointing to a legal brief filed Jan. 17 by RIM. It describes possible issues related to the work-around, including a "significant effort" by users to upgrade their systems. ▸

**RIM'S CONTINGENCY PLAN**

### BlackBerry Multi-Mode Edition

- **The software update adds a "U.S. mode"** that RIM can activate if an injunction is issued against the BlackBerry service.
- **The work-around code would automatically engage** on each BlackBerry device that includes the update.
- **Downloads will be made available for existing users** on a dedicated Web site: *www.blackberry.com/workaround*.

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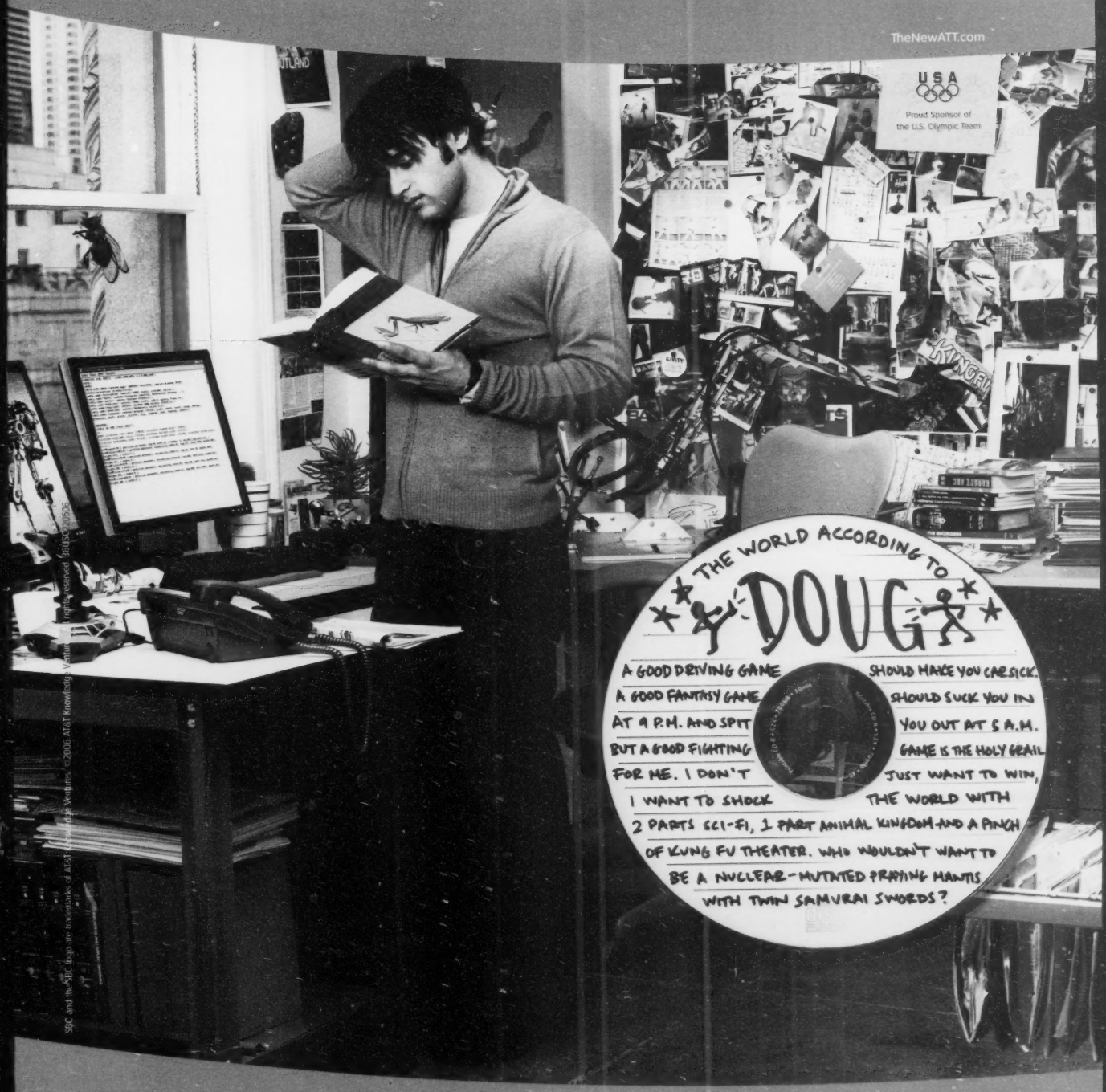
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# Capital One Cuts Servers With Virtualization Push

## But IT exec says vendor pricing standards needed

BY PATRICK THIBODEAU
NEW YORK

*Capital One Financial Corp. is reducing its server count even as it expands and acquires new businesses. To help in that effort, the McLean, Va.-based credit card and financial services company uses virtualization in its servers and networks and is piloting a database virtualization program. In an interview with* Computerworld, **Lee Congdon**, *vice president of corporate technology at Capital One, said the company's goals are to reduce technology costs and improve the IT department's ability to meet business needs. Congdon also talked about the industry's role in spreading the technology.*

**Why is virtualization a core part of Capital One's IT strategy?** As we acquire various firms, we're going to be presented with different operating system environments, different networking environments, different networking suites and so on. [Virtualization technology] buys us time in circumstances where a specific application is ready to move over and we need to shut down that physical location, or where we need to move off aging hardware or software. It also gives us better management tools and controls across the environment. [And] if we can go from 50% to 85% utilization on the servers, that's free money. Another [benefit] is alignment with the business — [delivering] application solutions quickly when we're asked to do projects.

**What is the state of your virtualization efforts so far?** We are probably 30% of the way through a three-year plan to [cut the company's 1,600 servers] to 1,100. In addition, we've made investments in storage virtualization, and we're piloting database virtualization. Our networks are becoming more and more virtual to enable us to manage the acquisitions.

**How mature are virtualization technologies?** They're getting better, but we're going to need heterogeneous as opposed to homogeneous management and service-level tools. Right now, each vendor is [individually] approaching the problem, or a part of the problem, and what I don't see us having yet are industry-standard services for management across the broader virtual space.

**Is Capital One heading toward heterogeneous Nirvana – treating an enterprise as one big virtual resource pool?** It will be a while before its gets to be that simple. Under the covers, it will probably never be that simple. But to the extent that we can move in that direction, that's an advantage for us. I think it's going to be a while before we get to Nirvana, but steps in that direction are important.

**How do you get skilled people to build and run virtualized environments?** I see going forward a mix of our associates, typically in leadership and direction-setting roles; vendor partners, typically in "performer" roles but with full accountability and responsibility for delivering to service levels; and then additional contractor and consultant personnel to fill in specific skill gaps.

**Has the licensing of virtual software been an issue for Capital One?** I think we can continue to manage this one-off with our key providers — it hasn't become a burden for us as of yet doing it that way. But over time, having an industry-standard model similar to the traditional per-CPU or per-user or per-connection type of licensing model would be valuable. As we talk about being able to move applications in flight, vendors will make our job easier if they're able to provide a consistent model that we can think of as the entire set of processing services, rather than trying to slice it different ways for different vendors. ▸

## Other Companies Fight Server Sprawl With Virtualization, Too

NEW YORK

**WHEN IT COMES** to server sprawl, the big picture is bad.

Framingham, Mass.-based IDC expects the number of servers in the U.S. to grow from 2.8 million in 2005 to 4.9 million by 2009. Data centers "are becoming more and more swollen," causing IT costs to rise quickly, IDC analyst Vernon Turner said at the IDC Virtualization Forum, which was held here last week.

The constant need for more horsepower, and the accompanying expense, are leading some IT operations to slowly turn to virtualization technology.

The IT staff at Deluxe Laboratories, a Los Angeles-based media services subsidiary of Rank Group PLC, manages about 400 mostly x86-based servers, and the count is growing by about 30% per year, said Mark Winter, executive vice president for IT.

The company is testing virtualization technology installed by St. Louis-based consulting firm Savvis Inc., but Winters estimated that it will take three years to expand its use throughout the firm.

"I'm getting to the point where I'm having difficulty managing," said Winter. The server growth has pushed the company's ratio of servers to systems administrators to about 30-to-1, far higher than Winter would like. "Right now," he said, "I'm at half the number [of administrators] I need."

Desert Schools Federal Credit Union in Phoenix expects to cut costs significantly by running VMware Inc.'s virtualization software on two two-way, dual-core Opteron-based blade servers, which were installed last week, said Doug Baer, a systems engineer at the firm. Baer said the new systems are expected to handle the workload that is running on the five two-way, single-core Xeon machines they are replacing.

"I can hardly imagine buying another server," said Baer, crediting the virtualization software from EMC Corp.'s VMware subsidiary. "Once you build your virtual infrastructure, you are definitely slowing down your server proliferation."

John Weeks, IT manager at Enumclaw Insurance Group in Enumclaw, Wash., wants to enhance his virtualized environment by adding systems running dual-core Intel chips with the vendor's Virtualization Technology (VT).

Enumclaw currently runs VMware on 40 Intel-based servers, and Weeks said he thinks that running the software on systems incorporating VT would improve virtualization performance significantly.

VT has been included in Intel's Xeon MP chip, formerly code-named Paxville, since last year, but it had been disabled. Intel began allowing users to enable it last week.

– PATRICK THIBODEAU

### Hurdles to Virtualization

1. Cost and budget
2. Institutional resistance
3. Lack of skills in-house

SOURCE: IDC, FRAMINGHAM, MASS.

## VMware Offers Low-End Virtual Server Tool

**VMWARE INC.** last week released a free beta version of new low-end virtualization software that can create multiple operating systems on a single machine.

The entry-level VMware Server can partition Windows and Linux servers into multiple virtual machines running Linux, NetWare, Solaris x86 and Windows, according to VMware, a subsidiary of EMC Corp. The new software also supports 64-bit operating systems, the company said.

VMware Server, an updated version of the company's GSX Server product, also lets a single virtual machine span multiple processors within a single box and can take advantage of Intel Virtualization Technology on some upcoming Intel processors, VMware said.

The vendor will support current GSX Server customers for two years after the initial shipment of the VMware Servers.

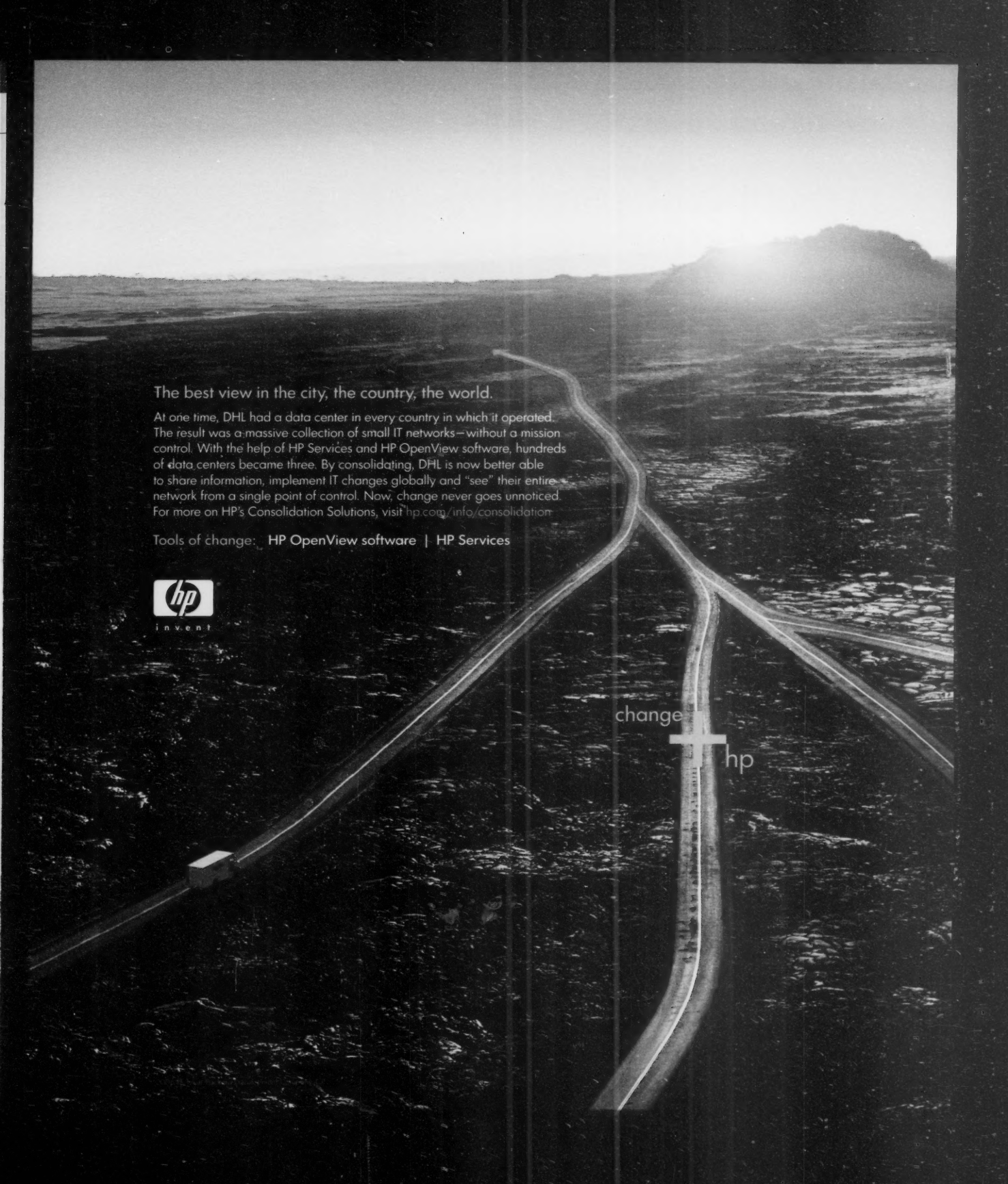
"VMware has done well by managing to open up and drive the conversation on how to gain additional value from your low-value machines," said Charles King, an analyst at Pund-IT in Hayward, Calif.

Central Transport International Inc. saved $250,000 last year by using VMware GSX and ESX Server software to consolidate more than 50 Windows servers into 10, said Craig Liess, the trucking firm's server administrator. The Warren, Mich.-based company hopes to have half of its servers running virtual environments by the end of the year.

In the long run, analysts say, virtualization itself will likely become a commodity as it gets built into more operating systems. Windows Longhorn Server, for instance, should include built-in virtualization, said Gordon Haff, an analyst at Illuminata Inc. in Nashua, N.H.

VMware said the first shipments of the new software will come during the first half of 2006.

– ERIC LAI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# App Support Upstarts Promise Lower Costs

## Third-party software maintenance firms try to lure users from vendors

BY STACY COWLEY

FOR USERS of corporate applications, it's the annual maintenance fees that make the software really expensive. Now a handful of third-party support services firms are trying to lure IT managers with the following proposition: Turn your maintenance work over to us, and watch your bills shrink by as much as 50%.

The third-party efforts aren't entirely new. For example, TomorrowNow Inc. began offering full-blown support replacement services for PeopleSoft Inc.'s applications two years ago, when PeopleSoft was on the verge of being acquired by Oracle Corp.

But support firms such as Bryan, Texas-based TomorrowNow, which itself was bought by Oracle rival SAP AG early last year, are stepping up their efforts to attract users. TomorrowNow said it gained about 75 customers in 2005 while increasing its workforce from 50 to 150 and adding support centers in Denver, the U.K., the Netherlands and Singapore.

Las Vegas-based Rimini Street Inc. officially launched support services for users of Siebel CRM applications last month, and two weeks ago it announced plans to add support centers in Austin and the Pleasanton, Calif., area to augment its facilities in Durham, N.C., and Foster City, Calif.

Another third-party vendor is netCustomer Inc., which is based in San Jose but has most of its operations in Noida, India. It announced Siebel support services last August, adding to existing offerings for PeopleSoft users.

Joe Muhlenkamp, IT director at Big Lots Stores Inc., made the third-party switch in late 2004, just before Oracle bought PeopleSoft. Big Lots, a discount retailer based in Columbus, Ohio, runs an extensive PeopleSoft ERP system that handles human resources and payroll management for the company's 40,000 employees. But Muhlenkamp said he grew disenchanted with PeopleSoft's support services.

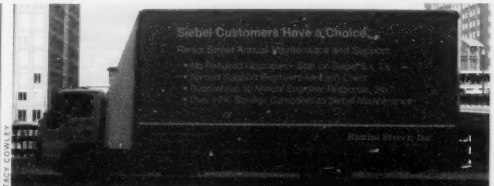
"From a cost perspective, the level of support I was getting wasn't worth it," he said. So Muhlenkamp signed on with TomorrowNow, which issues tax and regulatory updates as well as bug fixes. It also has consultants on call to handle its clients' problems.

"The quality of the updates has been good, and we haven't had any significant support issues," Muhlenkamp said. "Our system is as solid as it's ever been."

### Gauging the Risk

Recurring maintenance revenue streams are prized assets for application vendors. And however grudgingly, most users pay up. For example, since it acquired PeopleSoft 13 months ago, Oracle has retained 94% of the PeopleSoft support contracts that have come up for renewal, a company spokeswoman said.

The subscription rate for vendor-provided maintenance "is probably higher than it's been at any point in history — well over 90%," said Jim Shepherd, an analyst at AMR Research Inc. in Boston.



STACY COWLEY

RIMINI STREET used a rented truck to market its third-party support services outside a Siebel user conference in Boston last October.

"There's a sense that it is an unacceptable risk to be on unsupported software."

For Ace Parking Management Inc., though, the risk has paid off. TomorrowNow last month announced that the San Diego-based parking lot operator had signed a three-year deal to renew a PeopleSoft support services contract that began in late 2004.

Stevan White, Ace Parking's IT director, said he's happy to rely on TomorrowNow's services for now and avoid paying full freight for maintenance — even if he eventually has to pay the full upfront license cost to upgrade to Oracle's promised Fusion line of integrated applications.

"Five or six years down the road, we might want to go with the latest and greatest [release]," White said. "But we will have saved enough to relicense from scratch. I can sit here on my software, nice and stable, saving money and watching as Oracle and PeopleSoft figure out what they're going to do to move forward." ▸

*Cowley writes for the IDG News Service.*

# Florida Begins Linking Its Law Enforcement Agencies

## $15M project aims to speed sharing of data in state

BY HEATHER HAVENSTEIN

The Florida Department of Law Enforcement this month will begin work on a $15 million project to integrate the back-end systems of 500 law enforcement organizations across the state.

During the first phase of the Florida Law Enforcement Exchange (Flex) project, data housed in the records management systems of local and state police, corrections and court departments will be cataloged and a metadata management layer will be created, state officials said.

The metadata management phase of the project is slated to be completed by midyear. The remaining three phases will be completed in about a year.

In many cases, investigators in Florida law enforcement offices now gather information from other departments in the state via telephone or e-mail. The Flex system promises to provide access to statewide law enforcement data with a single query, said Brenda Owens, the state's CIO, whose IT unit is overseeing the project.

"Our goal is to provide seamless access to data across the state," she said. "An operator sitting at a PC in a police department doesn't know or care what the data looks like; they can put the inquiry in and get the information back."

### Large-Project Problems

Large integration projects such as Flex often derail because it's difficult to get different groups to agree on metadata types. Many agencies in Florida have already faced that issue once during efforts over the past few years to create a data-sharing system in each of the state's eight regions.

The new system will use the Federal Global Justice XML Data Model, a data-sharing standard developed by the U.S. Department of Justice, to provide data translation for data sharing, according to Mike Phillips, technical coordinator for the Flex project.

> **"An operator sitting at a PC in a police department doesn't know or care what the data looks like; they can put the inquiry in and get the information back."**
>
> BRENDA OWENS, CIO, STATE OF FLORIDA

In addition to using the XML Data Model standard, IT developers must extract data definitions from each regional system to create a common statewide vocabulary for data exchanges, Phillips said.

While the regional groups had manually mapped the metadata needed to exchange information in the earlier projects, the IT unit determined that Flex required an automated data-mapping system to be sure that the statewide effort would be completed by March, 2007, as scheduled.

Therefore, the state turned to Dublin, Ohio-based Sypherlink Inc.'s Harvester metadata discovery and mapping tool to automate the process.

Automating the process was seen as the easiest way to encourage participants to share data, because it didn't require that applications be rewritten, Phillips said. In addition, the tool should speed the metadata management process by 50%.

"The metadata management or understanding the common elements is a huge part of [an integration project]," said Ken Vollmer, an analyst at Forrester Research Inc. in Cambridge, Mass. "Trying to combine information from two agencies — that is hard enough. [In Florida], you're talking 500 agencies, and they have to have some software to help them determine what the common data elements are."

State officials are now completing the training of users on Harvester and have compiled a dictionary of basic data elements within the regions. ▸

# HP User Group Looks to Interex Demise to Boost Membership

## Encompass president expects 25% increase in enrollment this year

BY LUCAS MEARIAN

*Encompass, a Chicago-based Hewlett-Packard Co. user group, has been trying to expand its roster by adding a chunk of the 100,000 members of the former Interex user organization, which closed its doors last year. In a recent interview with* Computerworld, **Kristi Browder**, *president of Encompass and IT director at Silicon Laboratories Inc. in Austin, discussed that effort and the future of her group, as well as its plans for the HP user conference this fall.*

**How has the demise of Interex affected your membership?** Our community is at 10,000. We'd like to increase membership over this next year. Primarily, the way we're hoping to address that is to embrace former Interex members. We've extended free membership to any former Interex members to March 2006. We have been growing our local presence within the local user groups.

**How many of the 100,000 former Interex members have joined so far?** A ballpark 150 members have joined to date. We plan to grow our membership by 25%. We are continuing our outreach efforts to the Interex community. In addition, Encompass is working closely with the HP Certified Professional Program and has extended offers to that group.

**Are former Interex members a bit jaded about the group's treatment by HP?** Not the ones I'm dealing with. I could understand it. We've all gone through times where we've gone through disappointments, especially in a volunteer position. I can't say we're immune to it, either. Encompass has had its moments.

**What are your plans for the HP Technology Forum this year?** The Technology Forum is going to be held in Houston during hurricane season. We had roughly 4,000 people at the Orlando event, which we were grateful for, considering that the event had moved [from New Orleans because of the effects of Hurricane Katrina]. We expect to see double the attendance [this year].

**How have Encompass members reacted to Carly Fiorina's departure from HP and the leadership of Mark Hurd?** We typically don't get involved in the business politics. We're primarily focused on the technology. Mark did show up at a [users] event in Orlando. He was very well received. It was a different presence than we'd seen in the past. He was very focused and results-oriented.

**What would you like to see HP address from a technology standpoint?** I'd like to have lower cost. A lot of our community is also focused on virtualization and business integration. I think hardware is going to become more and more of a commodity, so whatever tools and technology can be produced to manage that is going to help lower the cost of running a large data center.

**What does your membership see as the key issues this year?** We think we know, but we're not sure we know. So that's one of the investments Encompass plans to make this year — [to do] inbound marketing to find out what is important to the user base and help expand on the delivery of our services, whether it's collaboration tools or conference content. ▸

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# DOE Overspends on Software, Inspector General Says

BY LINDA ROSENCRANCE

The U.S. Department of Energy spent $4.1 million more than necessary during the past five years to acquire and maintain desktop software, according to the agency's inspector general.

In a report submitted to the department last month, Inspector General Gregory Friedman was critical of the DOE's policies for licensing and administering software in its various units.

The DOE and its contractors operate more than 110,000 desktop computers that run commercial off-the-shelf software, including office automation, records management, document imaging and antivirus products, Friedman said.

The report found that the DOE has "not adequately managed the acquisition and maintenance of desktop software computer licenses."

In particular, Friedman said that seven of 16 organizations in the department bought software through locally established agreements or contracts, with prices up to 300% higher than those available through department-level agreements.

In addition, despite the potential for savings, the DOE has not entered into enterprise agreements for common products, such as security and antivirus software, the report said.

"Generally, if you're going to make a departmentwide purchase, you would probably qualify for a higher level of volume discount," said Amy Konary, an analyst at IDC.

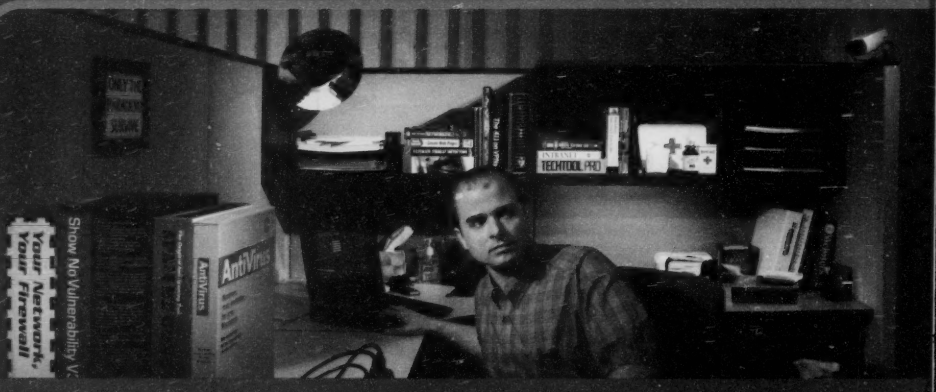
## Lack of Tracking System

Most DOE units also did not effectively track their software licenses and related use, Friedman said. For instance, officials at Los Alamos National Laboratory in New Mexico acknowledged that they could have saved $800,000 by more effectively managing software acquisition and maintenance.

Konary noted that enterprise licenses could solve such management problems. "It gets everybody on the same renewal schedule, which makes administration easier," she said. "There's definitely a cost of administration when you've got lots of different license contracts."

Friedman also said that various agencies bought encryption software licenses and paid annual maintenance fees but never used the products.

DOE officials couldn't be reached for comment, but in a written response to the inspector general, Adrian Gardner, the DOE's deputy CIO, concurred with Friedman's findings and indicated that steps have been taken to address the problems, including efforts to renegotiate and consolidate license agreements for a common office automation suite.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# Updated Linux Interface Targets Users of Desktops

BY ERIC LAI

Novell Inc. last week unveiled updates to the Linux graphics subsystem that are aimed at making it a more attractive operating system for desktop users.

The improvements to X over OpenGL (Xgl), the graphics technology that underlies Linux, will render images faster and improve 3-D graphics and video for users running Linux-based desktops, said Charlie Mancusi-Ungaro, Novell's director of marketing for Linux and open-source.

The new capabilities, already available in source code, arrive before Microsoft Corp.'s much-ballyhooed Aero graphical user interface in the upcoming Vista operating system.

The updated rendering technology will be offered as an option for Version 10 of Novell's Linux Desktop software, which is due out this summer, Mancusi-Ungaro said. The code will be offered to the open-source community, so he expects the updated Xgl to be incorporated into other Linux flavors, such as Red Hat or Ubuntu.

Xgl is a version of the X Window System developed more than 20 years ago for the Unix operating system. The subsystem supports Linux desktop environments, such as KDE (K Desktop Environment) or GNOME (GNU Object Model Environment).

The new Xgl version can run on most Linux-based PCs with 3-D graphics cards purchased in the past 18 months, said Mancusi-Ungaro.

## Simply Gimmicks?

Jakob Nielsen, a usability expert at Nielsen Norman Group in Fremont, Calif., applauded the transparency and extra desktop features in the enhanced Xgl framework but also noted that some 3-D features are simply gimmicks. These, he said, offer "a great way to show off graphical horsepower but [are] basically useless."

Linux's reputation has suffered for having a less attractive and harder-to-use interface than Apple Computer Inc.'s Mac OS X or Microsoft's Windows, but the updates could help boost the standing of Linux among PC users, Nielsen said.

Linux's reputation has been well earned and is a natural result of its technical heritage. "Linux has always been able to attract great programming talent but not as many talented usability people," Nielsen said.

He noted that it's often difficult in the freewheeling, open-source culture to veto new features that add marginal utility at the cost of increased complexity. "To have a simple, unified experience that is good for the average user requires someone to say no," he said.


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# CA's New CTO Says Focus Is on Integration

BY MATT HAMBLEN

*CA Inc. recently named* **Mark Barrenechea** *its chief technology officer, responsible for its technology vision and strategy. He came to CA in 2003 from Oracle Corp. and has been the company's chief technology architect for the past year. He replaces Yogesh Gupta, who had been CTO since 2000 and is now senior vice president for business development. Barrenechea recently discussed his plans with* Computerworld.

**How do you see your job as CTO?** As we look at what we're trying to achieve here at CA, integration is becoming more and more important to our customers. To be able to deliver on the enterprise IT management vision and potential, we need to ensure that security, storage, [business service optimization] and [enterprise solutions management] are fundamentally integrated at the data level, business process level and user experience. As we bring in world-class companies [as partners and by acquisition], we need a comprehensive road map to integrate, integrate, integrate.

**In general, how do you see the role of the modern CTO?** A modern CTO is supposed to be a public spokesperson and doesn't have line or operational responsibility. They get the big picture and have their hand on the knobs and dials. At the other end of the spectrum are the internally focused applied technologists who are sort of heads-down in the rank and file with the delivery of bits and bytes to enable technologies. I'd describe myself as somewhere in the middle.

**How do you interpret that middle ground for your new job?** We will have responsibility to deliver common components [and to form] the Advanced Research Group to look beyond the two-to-three-year cycles that we're delivering products against.

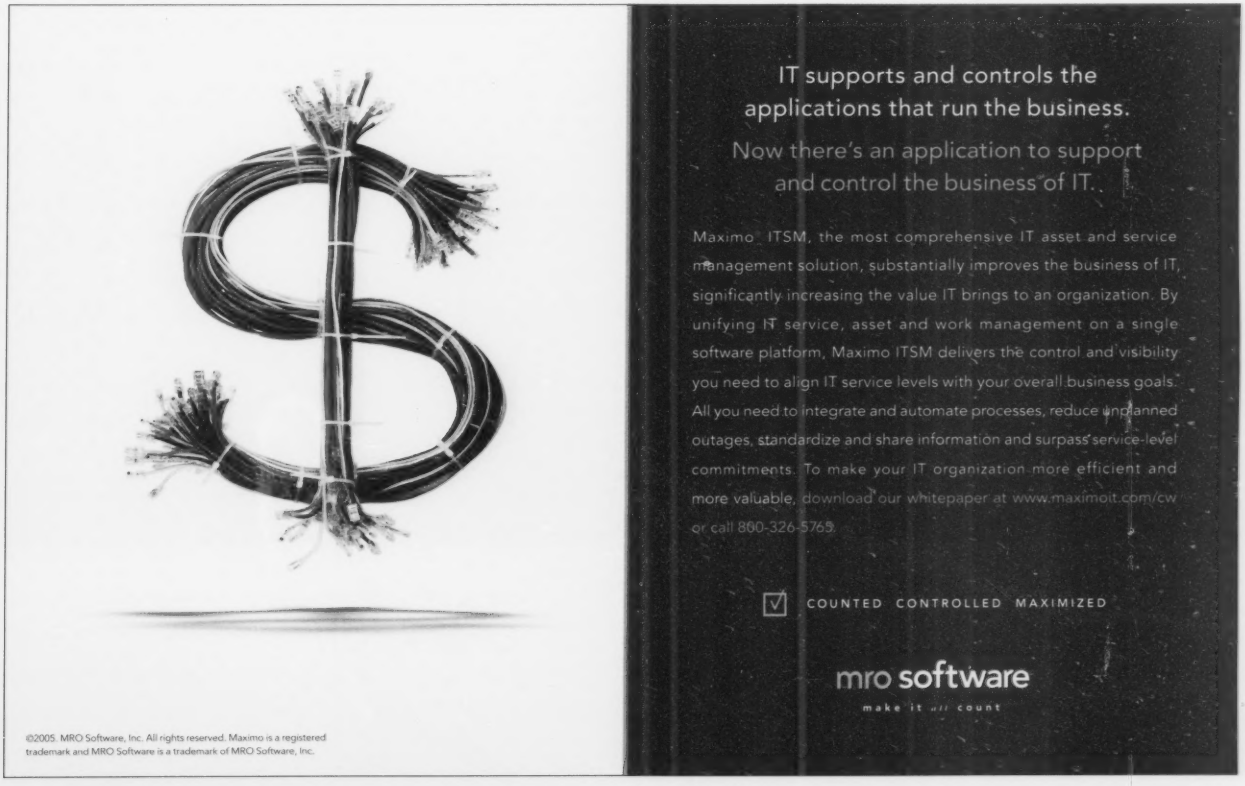
**How big is your organization?** A few hundred folks.

**What are your plans for advanced research?** We have sufficient scale where we want to do advanced research, and just historically haven't done it. We want to be forward-looking in our advanced research lab. We want a practical view of having high probabilities that what we incubate in our labs will progress into product.

**How are you planning to find talented people to staff the research group?** A modern CTO needs to continue to recruit the best talent. Formally, a part of my charter is to actively evangelize and recruit with universities around the world.

**What are some cool emerging technologies that could be important for IT?** There are a couple of technologies that could really change IT. Everything will be IP-based, and we're about halfway there. With everything IP-based, it's a very different IT organization. Storage becomes IP-addressable. Today, we're 20% penetrated on VoIP, but there will be IP devices, from big phone switches to other things. Once you identify everything as IP-addressable, you can discover it, track it, and management becomes almost based on a query.

**What is Yogesh Gupta's new role as vice president of business development?** Yogesh has become a close colleague. He's an industry veteran and a friend and has done a fantastic job in the CTO role for five years. Now he has a very important role of helping drive business strategy within our mergers and acquisitions group. I'm thankful for his leadership and suspect he'll do a fantastic job. ▸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DON TENNANT

# Laughing Matter

THIS may scare you, but the fact is that you and I have more in common than you might think. For one thing, we're both *Computerworld* readers. I typically get to read most of the articles before you do, and I'm privy to a lot of what goes on behind the scenes to make them happen. But just like you, I read *Computerworld* because it's a great resource to keep me abreast of what I need to know in my profession.

**DON TENNANT** is editor in chief of *Computerworld*. Contact him at **don_tennant@computerworld.com**.

And like you, when I come across an article that I find particularly interesting or enjoyable, I like to share it with people I know who might not otherwise see it.

The one article I've shared more than any other in recent memory appeared in our Dec. 19, 2005, issue. Written by Matt Hamblen, it was entitled "No Fun," and it raised an intriguing question: "When did life in IT get so darn dreary, and what can you do about it?" I have a hunch that a lot of people outside of IT are asking the same question about their own professions.

So, regardless of our lines of work, it's good for all of us to read in Hamblen's story what Dale Sanders, CIO at the Northwestern Medical Faculty Foundation, has observed: "You can predict a successful business if you can hear heartfelt laughter 10 to 12 times a day."

I have to think he's right. Way too often, we take ourselves way too seriously. And if we'd only admit it, there's a lot about ourselves that we can laugh at.

That brings me to another recent *Computerworld* story that I especially enjoyed: Todd Weiss' piece "Technology Victim: Western Union Sends Its Last Telegram," which was posted on our Web site on Feb. 3. Beyond the humor inherent in the fact that, as Weiss' story noted, there were actually 20,000 telegrams sent via Western Union in 2005 (by whom, I can't begin to fathom), my own association of telegrams with Morse code brought to mind the most embarrassing moment in my professional career.

In the early '80s, when I was working for the National Security Agency, I had to learn Morse code for an upcoming assignment. I was put in a class of kids who were fresh out of high school and who had been hired by the NSA to do some sort of Morse grunt work.

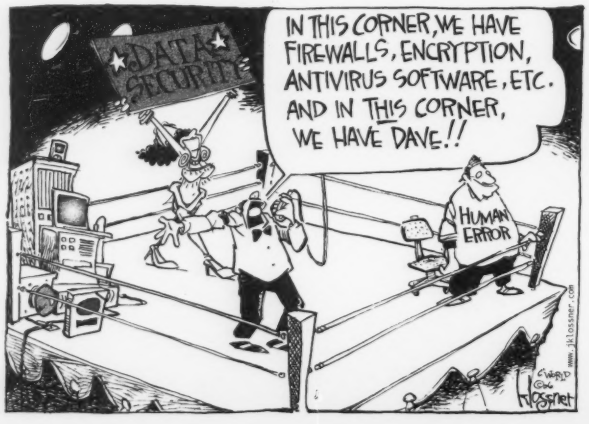
As the lone, thirtyish intelligence officer in the class, I was the center of attention of my young female classmates, who were clearly enthralled by my experience.

One day as we sat at our terminals, listening to the dots and dashes through our headphones and banging on our keyboards Typing Tutor-style, I decided to pause to take a big swig of coffee. If you've ever done that and had it go down the wrong pipe, you know what happened next. I started choking and sputtering and spewing coffee all over myself, compelling several of the girls to come to my rescue with whatever they had handy to wipe me up with.

When my coughing and hacking finally subsided, I realized that, in a matter of seconds, my Bondesque persona had vanished. I was Loser. Larry Loser.

It's been fairly difficult to take myself too seriously since then, and it's just as well. It's a lot easier to laugh that way. Over the years, I've found that the people I admire most are the ones who, though they may carry a seemingly crushing burden of responsibility, are still able to laugh. That's a trait we'd all do well to work to have in common.

Don Tennant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MICHAEL H. HUGOS

# Building the Taj Mahal, In Systems

AS I WORK through what it means to reinvent myself and be agile, I'm coming to some insights.

Let me start with a definition. *Agility* in IT means being skilled in the use of a set of techniques that enable you to size up situations and develop effective solutions faster and cheaper than others thought possible. I call these the core techniques, and I've talked about them in earlier columns, including "Just a Handful of Techniques" [May 2, 2005].

I've practiced and applied them for years. My value in the job market is to a large extent determined by how skillfully I use them to get things done for people who hire me. Basically, I'm paid to be agile. My opportunity is to use agility to get things done for a lot of people. By practicing IT agility, I'll be in constant demand. Everywhere I look, companies need systems to help them get things done.

**MICHAEL H. HUGOS** is a CIO at large, author and speaker. His books include *Essentials of Supply Chain Management* and *Building the Real-Time Enterprise: An Executive Briefing* (both published by John Wiley & Sons). He can be reached at **mhugos@yahoo.com**.

My ability to take what I've done before and apply it in a new setting raises a question. "Well," people ask, "if you build a system for Company X, how can you build a system like it for another company without divulging proprietary information?" I'll illustrate the answer with a story.

In college, I studied architecture. One day in design studio, our professor told us about the architect who built the Taj Mahal. To honor his late wife, the emperor Shah Jahan wanted a monumental mausoleum of incomparable beauty and grandeur. He hired a great architect, who applied his skills to the situation. We all know the architect succeeded brilliantly. The emperor was very pleased but was determined that no one else would have

a building like the Taj Mahal. According to legend, he had the architect blinded.

Our professor then asked us what the emperor had done wrong, bearing in mind that it was entirely within his rights to exercise that kind of control over his subjects. The answer is that the emperor confused the skill of the architect with the building those skills produced. The emperor need not have worried. A good architect wouldn't build another Taj Mahal.

This is because every client has different needs, and good architects use their skills to create buildings uniquely suited to each client. Most buildings have four walls and a roof, yet they are clearly not the same. By analogy, most systems are built with standard components like databases, Web pages, packaged software and programming languages. But how they are combined to do what they do is unique and proprietary to each individual client. The proprietary designs of one client are not what another one needs. Architects and system builders reuse their skills and techniques; they do not need to reuse proprietary information.

Anyone can buy any collection of hardware and software, so the real value lies in the how skillfully it is used. The more skilled you are with the core techniques, the more agile you become and the more valuable your services are to people who need to get things done. This is why IT folks working on reinventing themselves might consider joining the "Agility Corps," which is what I'm calling the IT-business operations experts who successfully apply combinations of the six core techniques to deliver quick, 80% solutions to business problems. I'll talk more about this next month.

MICHAEL GARTENBERG

# Be an IT Hero And Roll Out 3G Now

CONNECTIVITY IS central to the notion of digital ubiquity. In the earliest days of mobile computing, connectivity required carrying a set of acoustic couplers and attaching a handset at 300 baud. Later came the integration of modems directly into the laptop, running at a blazing 14.4Kbit/sec. More recently, IT departments have helped boost productivity on the road by providing support for Wi-Fi and letting users get access wherever they can find a hot spot.

**MICHAEL GARTENBERG** is vice president and research director for the Personal Technology & Access and Custom Research groups at JupiterResearch in New York. Contact him at **mgartenberg2@optonline.net**. His weblog and RSS feed are at **http://weblogs.jupiterresearch.com/analysts/gartenberg**.

Today, the next chapter in connectivity is being written, and it's time for IT to get on board. If you're looking for a way to win cheers from the road warriors in your organization, then it's time you looked into the new 3G services available from the major carriers.

"3G" is a collective term for all the next-generation wireless technologies that deliver broadband speeds to devices like smart phones and laptops. Whether it's called UMTS, EV-DO or some other acronym, for users it means one thing: never having to look for a hot spot again while still connecting at broadband speeds on the road. Options range from laptops and smart phones with integrated 3G technology to PC cards to deliver the capability to older machines.

In general, look carefully at what you're buying and do the needs assessment. First, determine which carrier will best suit your company. All the major carriers are either rolling out 3G offerings or plan to do so in the near future. Coverage will help determine your selection, so you need to find out where folks are traveling before making the commitment. There's nothing worse than paying for the service and not being able to use it.

Prices also vary greatly across the board. The same smart phone offered by two different carriers can cost as little as $15 a month in connection fees or as much as $50. Laptop pricing is often different from handheld or smart-phone pricing, and costs can vary if you're using the carrier for wireless voice services as well.

Terms of service also vary. Some carriers allow users to tether a 3G smart phone to a PC (either via USB or Bluetooth), enabling it do double duty as a stand-alone device and a modem for the laptop. Others prohibit this explicitly. Read the fine print — that unlimited service you signed up for may bar you from doing things users take for granted on broadband connections, like streaming audio or video files.

Select devices carefully as well. Integrated radios in laptops mean there's one less thing for users to carry around and lose, but they also mean you're going to be locked into whatever carrier is partnered with the laptop vendor. Also be careful of WAN offerings powered by slower technologies. Some vendors offer so-called 2.5G services, such as EDGE, that operate at a slower speed than 3G networks but at the same cost. Smart phones and devices in that class that are used only for e-mail and light Web browsing might not reap the same benefit as the same technology deployed on a notebook, so think before you invest.

Once you've settled on the proper devices and classes of service, you'll be amazed at the productivity boost you give your users. They will be able to connect quickly and seamlessly wherever they are (within the coverage area, of course), and they'll be singing the praises of IT along the way.

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**www.computerworld.com/columns**

# READERS' LETTERS

## Outsourcing Needs Micromanagement

**MY EXPERIENCE** has been that outsourcing a project is like telling someone to cross the street in heavy traffic. If you don't tell him to look both ways, he won't.

Outsourcing requires a micromanagement approach ["Working Through the Pain: Lessons Learned From Outsourcing," Dec. 5].

**Mara D. Burns**
*Senior project manager, New York*

## Wal-Mart Favors Younger Workers

**AS WAL-MART** expands its IT ranks, it plans to fill the majority of the positions with new college graduates ["Wal-Mart to Add 250 IT Jobs, Expand Online Presence," *Computerworld.com*, Dec. 5].

Sounds as though it's advertising for people to charge the company with age discrimination as it searches for "strong, young minds."

**Richard Nelson**
*Programmer/analyst, AmerUs Annuity Group, Topeka, Kan., richardn@amerusannuity.com*

## Affordable and Functional Is Good

**ACCORDING TO** the headline of a Dec. 11 article on *Computerworld.com*, "Intel's Barrett Says World's Poorest Don't Want $100 Laptops." I'd gladly pay $200 for a device that was as functional as my old TRS Model 200 (1985, used four AA batteries) or my Psion Series 5 (1997, used two AA batteries).

I have a laptop, but it starts up slowly, drains the batteries much too quickly and has tons of functionality I rarely use when I'm using it as a portable device.

Those "tons of functionality" provide a very fertile soil for any number of primitive "organisms" (viruses, worms, Trojan horses, etc.) yet leave me with a paucity of user programmability, unlike my older favorites.

Microsoft should modify the Xbox 360 with a keyboard, simple software and simple user programming language accessible by simple, cheap, lightweight wireless client terminals.

Does anyone remember how much functionality programmers used to get out of a half megabyte of memory and a few megs of storage? What could they have done with a gig CF card?

**Charles Stepp**
*Unix systems administrator, Tampa, Fla., steppnav@yahoo.com*

## Ingres' Bottom Line Beats Popularity

**INGRES MAY** not be sexy, but the bottom line for commercially used software is cost-benefit ratio, not popularity with the IT community ["Ingres Loyalists Cautiously Hopeful for a Reversal of Database Decline," Dec. 5].

If Ingres still has the best Query by Example facility, a fully functional and robust system, and standard SQL, all running in contemporaneous Unix, Linux, Windows or mainframe operating environments, then all it needs to win is for the users to find out just how easy QBE is, compared with the awkward, crappy command-line interfaces the competitors offer.

**David P. Vernon**
*Tucson, Ariz.*

**COMPUTERWORLD** welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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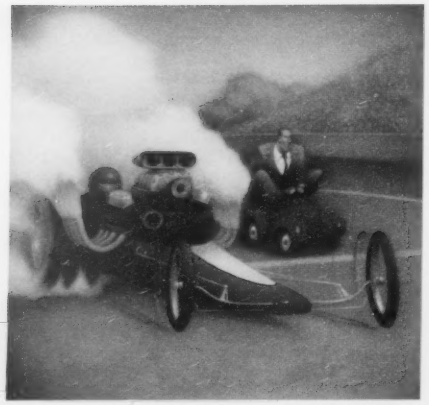

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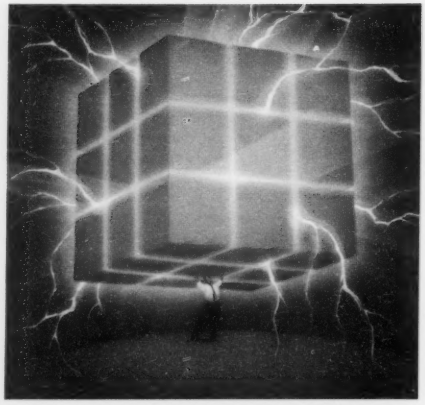
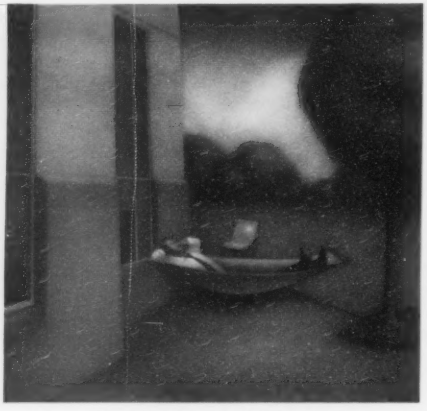


*Lightning speed with a multidimensional engine*



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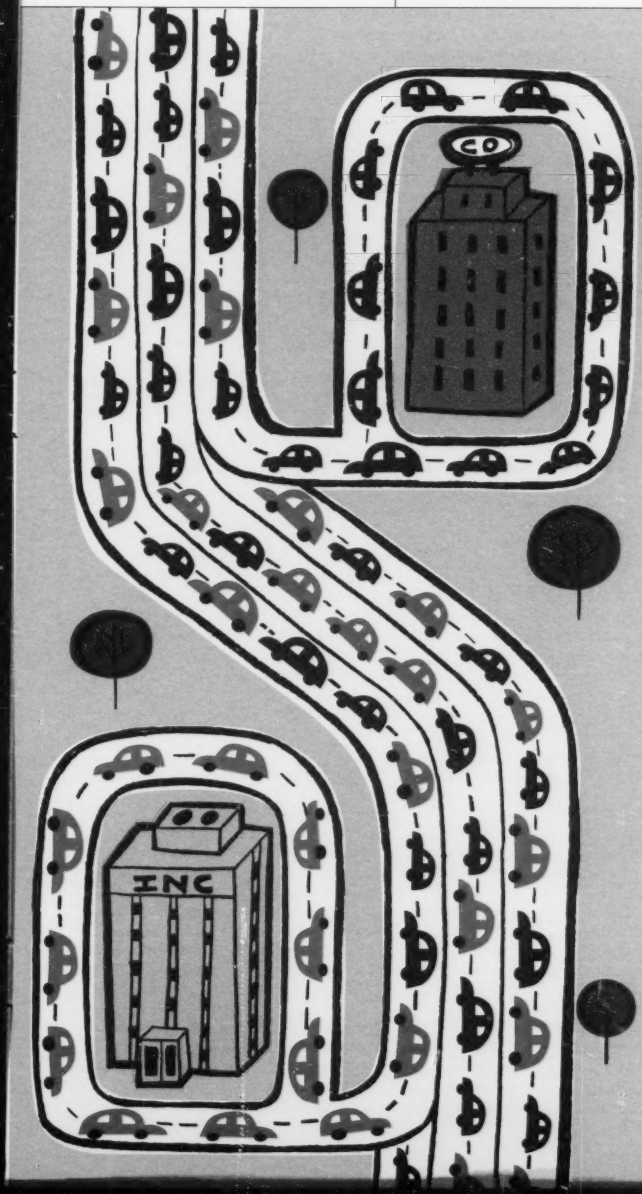
**Pandora.com Sings With OpenLaszlo**
The developers of a fledgling music discovery service relied on open-source development tools to build a Web site that's both responsive and easy to use. **PAGE 32**

**SECURITY MANAGER'S JOURNAL**
**Breached! A Security Manager's Nightmare**
When a Google search provides access to sensitive client data on her agency's Web site, C.J. Kelly starts looking for answers. **PAGE 36**

**OPINION**
**Three Views From the Top Of the Software World**
Behind the scenes, each of the the three major enterprise software vendors has a different vision. Depending on your vendor, the focus may be on data, people or business processes, says Curt A. Monash. **PAGE 38**




MELINDA BECK

# GOING PUBLIC

**Bypassing private network services, corporate IT is moving more traffic onto the Internet, which is now faster and more reliable than ever.**

BY ROBERT L. MITCHELL

A FEW YEARS AGO, the idea of using the public Internet as the primary network connection at MasterCard International Inc.'s branch offices wouldn't have been a serious option. Today, some of the financial services company's smaller offices are doing exactly that. For those locations, the Internet has become the access point for data entry, e-mail and other internal functions.

"All of that is supportable," says Jim Hull, vice president of engineering services, because end-to-end reliability and performance have improved to the point where the Internet is now "good enough."

MasterCard isn't the only organization to take notice. "The Internet is improving in its performance and in its price point," says Doug Hill, associate technical fellow and network chief architect at The Boeing Co. in Chicago. "We're using it a lot more than we used to."

In addition to supporting smaller remote offices, Boeing even runs some voice-over-IP traffic over the Internet, although broader adoption will need to wait for quality-of-service (QoS) functions to evolve, Hill says.

By using the Internet, both companies cut operating costs because the traffic no longer moves over ISDN, leased lines or other private network services.

"Enterprises are increasingly interested in Internet substitution. They're finding that they can offload a great deal of [network traffic]," says David Passmore, an analyst at Burton Group in Midvale, Utah.

Today, the Internet is chipping away at the periphery of the private network services that make up global networks. As the Internet continues to evolve, more of corporate IT's global traffic will be routed over it.

Although the Internet is likely to play a bigger role in corporate networks, it isn't likely to replace private network services anytime soon. Among the

# A Better Internet

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| E-mail | 10% |
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**INTERNET BACKBONE PACKET LOSS IN THE U.S.:**
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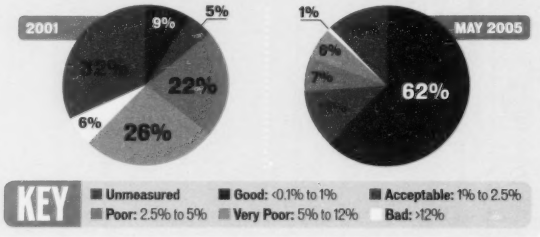
**Packet Loss Across the World's Population**




**SOURCE:** The Stanford Linear Accelerator Center's PingER project at Stanford University.

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**DRIVEN BY** competition from Internet-based VoIP services and cable providers, and the potential for operational cost savings, carriers are redesigning all of their network infrastructures around a common core: Internet Protocol. The initiative is being trumpeted by the industry under the banner of next-generation networking.

Some carriers, such as Verizon Communications, have already moved the bulk of their lower-layer data network services onto an IP-based MPLS backbone, but conversion of the public switched telephone network is likely to take 10 years, says Stu Elby, vice president of network architecture and enterprise technologies at Verizon. That will make it easier to connect to corporate voice networks, which are also migrating to VoIP.

The timing of the transition couldn't be better for companies such as Boeing, which expects to have all of its 160,000 telephones and 125 switches cut over to VoIP by 2011.

BT Group PLC is investing approximately $6 billion to transform its voice infrastructure within five years. "We're going to turn off the public switched telephone network, and voice will be an application on a broadband infrastructure," says CTO Matt Bross. Because a single IP network core is more efficient and less costly to operate than the separate networks it operates today, Bross says BT expects to save more than $500 million in operating costs annually.

That's important, because revenues from voice services, which make up a substantial portion of many carriers' earnings, will evaporate over the next few years as VoIP becomes just another application overlaid on the Internet. Eventually, unlimited VoIP service will be given away as part of broadband service offerings, analysts predict. Many carriers are hoping to make up that revenue in other areas, including beefing up service offerings to businesses.

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The Internet is not only a better network than it was a few years ago, but it continues to improve rapidly.

"The Internet is larger than it was five years ago by a factor of at least five," says Vinton Cerf, co-inventor of the Internet and chief Internet evangelist at Google Inc. "It continues to function reliably, and the underlying systems have higher absolute capacity."

Long-term studies of the Internet back up Cerf's assessment. At Stanford University, the International Committee for Future Accelerators has been tracking Internet performance and reliability for several years. Its tests show that the global reliability of the Internet has been improving by 40% to 50% annually, while performance has increased at an annual rate of 10% to 20% (see charts above).

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"What we haven't gotten is services and features such as QoS. That's our motivation for building private infrastructures," says Hill. Boeing is well into a massive project to re-create its global private network services built on Multiprotocol Label Switching (MPLS) technology. Carriers use the IP-based network service to tag and logically separate IP traffic into secure virtual private networks for different corporate clients, as well as to route traffic using the shortest possible path. Service providers see an MPLS-based infrastructure as a consolidation platform that lets them efficiently deliver all traffic types, including voice, video and data.

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architecture. "We believe a [QoS] Internet mechanism is almost impossible," says Chae-Sub Lee, chairman of the Focus Group on Next Generation Networks at the International Telecommunication Union.

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NUMBER OF VOICE CUSTOMERS PER YEAR THAT WILL SWITCH TO VoIP SERVICES THROUGH 2008

SOURCE: INFONETICS RESEARCH

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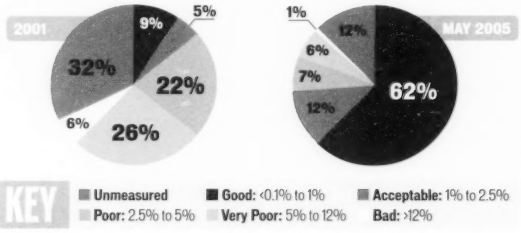


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But Robert Kahn, co-inventor of the Internet and chairman, CEO and president of the Corporation for National Research Initiatives, says security is a problem for intelligent endpoints that use the Internet, not for the network itself. "I don't know if [security is] a limitation. It's just an aspiration for something that could be better," he says.

In the meantime, many enterprises are redesigning their networks around private MPLS services. As carriers continue to consolidate their own networks around more-efficient IP-based architectures such as MPLS and the emerging IP Multimedia Subsystem (designed to transform the circuit-switched public telephone network), some cost savings are slowly trickling down to corporate customers.

"We saw that in the MPLS competitive-bid activity that we went through," Hill says. He says private services such as MPLS are vital to his company's use of videoconferencing and other high-bandwidth applications that require QoS and multicast capabilities.

Although using MPLS gets Hill out of the business of procuring individual circuits, even private MPLS network services don't deliver on QoS globally. The reason: No single vendor covers all locations, and the industry lacks a set of common QoS definitions and standards for network-to-network interfaces.

Carriers are working to remedy the problem. Verizon expects to start offering interoperable services late this year or early next. But Boeing's Hill remains skeptical that competing carriers will cooperate. "They want customers . . . getting locked into their services. They are singularly unmotivated to make those services interoperable," he says.

## Net Convergence

Will enterprises eventually build out global networks using the public Internet? In another decade, the convergence of public and private networks could make the question moot.

As carriers redesign voice and data services around IP, the differences between the public Internet and private network services are already blurring. At MasterCard, Hull sees little difference between the architecture of the MPLS network services the company is using to redesign its global network and the public Internet. "We're all going into the same cloud, and we're all sharing the same networks," he says.

Hill agrees. "The carriers we're using for our private corporate network are the same ones doing the Internet. It's the same infrastructure. There is no distinction between the Internet and the carrier services we're talking about," he says.

The difference may boil down to whether traffic is routed through public or private peering points within the Internet cloud, says Verizon's Elby.

Whether the two structures eventually converge entirely or remain separate, parallel architectures is the billion-dollar question, says Burton Group's Passmore.

The NSF's Parulkar says that the evolution could go either way: Although carriers' private networks appear to be merging into the public Internet today, the Internet itself could ultimately merge into the carriers' networks.

But Cliff Naughton, director of network services at Boeing, thinks business needs will ensure that parallel infrastructures continue to evolve. "I don't see one subsuming the other," he says. "There's a market for both, and there always will be . . . a need for higher levels of service."

# THE QUEST FOR GLOBAL QoS

**MASTERCARD IS** in the process of migrating its global network to MPLS. The company's managed VPN service over MPLS is global, but because no provider has global reach, Jim Hull, vice president of engineering services, uses 70 providers and the public Internet. However, a lack of interoperability between MPLS service providers left MasterCard with two choices: Either manage the network-to-network interfaces and figure out how to achieve end-to-end service-level guarantees itself, or hire a third party to do that. It chose the former.

Using the MPLS cloud lets Hull avoid the hassle of ordering individual circuits, but now he's stuck managing the end-to-end QoS. That adds complexity and slows the implementation.

Boeing, which also has made a substantial investment in MPLS, is in the same boat. "If the market doesn't evolve over the next 24 to 36 months, we'll have to examine alternative services," says Cliff Naughton, director of network services.

"No service provider will build networks absolutely everywhere," says Matt Bross, CTO at BT Group PLC. So BT and other communications carriers are working through the IPsphere Forum, a consortium that could define those interfaces and make it easier for carriers to manage QoS from end to end. Kevin Dillon, chairman of IPsphere, says the consortium won't define those interfaces but will provide a mechanism that carriers can use to negotiate and set up bandwidth and latency guarantees. But Bross says the group's focus is on interoperability. "The ability to work across heterogeneous platforms and networks is the goal," he says.

Others have their doubts. The problem is that competing carriers may not trust one another enough to allow full interoperability, says David Passmore, an analyst at Burton Group.

The outcome remains uncertain. "Whether this ever will result in an end-to-end service that customers can buy remains to be seen," Passmore says. But Stu Elby, vice president of network architecture and enterprise technologies at Verizon Communications, says corporate customers can expect to see multidomain MPLS offerings by late 2006 or early 2007.

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# Expanding Business Services

**AS REVENUES FROM VOICE** services plummet, telecommunications carriers are pursuing business services to make up for that loss. Sprint Nextel Corp. wants to more tightly integrate its service offerings with IT operations through Web services. For example, it would like to offer LDAP-based provisioning and authentication services and integrate them with the customer's internal LDAP database. Its next-generation network architecture will include not just IP but the full suite of Internet protocols, including RADIUS (Remote Authentication Dial-in User Service) for billing and accounting, and XML for communicating subscriber information and passing it between devices, says David Zufall, vice president of architecture strategy at Sprint Nextel. "We want to be flexible enough to allow enterprises to add their own services," he explains.

BT Group PLC is focused on services for data centers. "We will move from our strength in global networking to the IT space," says CTO Matt Bross. "We will do everything from infrastructure build-up through determining the compute and storage cycles." BT plans to offer managed security services and managed access to enterprise applications through the application layer. "If [users] are running a Siebel system, we will ensure the application [performance] end to end as opposed to just connecting it," Bross says.

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"We can take pieces of what the data center does and do that in a cost-effective way," says Stu Elby, vice president of network architecture and enterprise technologies at Verizon Communications. Elby says business continuity and managed security services are "in the works."

The paradigm of selling business-level services over the network is powerful, says Brian Carpenter, chairman of the Internet Engineering Task Force and a distinguished engineer at IBM. But carriers also face competition from companies ranging from upstarts like Salesforce.com Inc. to established operations like IBM Global Services.

"It will be interesting to see whether the traditional telcos can match that sort of model," Carpenter says.

Users may be receptive to at least some of these services, particularly as the corporate workforce becomes more distributed. "The carrier is in a position to provide more and more of the computer telephony or mobile options that aren't available off-premise, which is where much of the work is going," says Alan Ballinger, senior manager, distributed network integration and network services at Boeing.

Doug Hill, associate technical fellow and network chief architect at Boeing, sees a role for carriers in authentication and security services. "At some point, we'll have to have a greater ability for federation or have our authentication services federate into other companies or governments," he says. Carriers are well positioned to eventually deliver those services, and although they are less important for Boeing, "the carriers are going to have to play a role in that because everyone can't afford to build their own private network," Hill says. "It has to be more of an Internet model."

Elby envisions a hybrid security model in which Verizon might provide security for ATM kiosks, for example, or at other locations where it's expensive to install a firewall, while corporate IT handles other locations itself. "You'd have the service provider provide the access link and security for those," Elby says.

Carriers are starting to approach Boeing with data-specific service offerings in areas such as sales or manufacturing. But Hill and other users also worry about vendor lock-in. "Those are highly customized and not easy to go to a different provider for," he notes.

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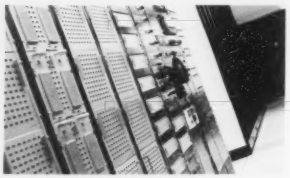

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| | |
|---|---|
| 9:30am – 11:55am | Concurrent Sessions (Primer, Career Development, SNIA Tutorials, etc.) |
| 11:55am – 1:00pm | Luncheon |
| 12:00pm – 5:00pm | Pre-Conference Golf Outing |
| 1:00pm – 5:25pm | IDC Analyst Briefing |
| 1:00pm – 5:25pm | Concurrent Sessions (SNIA Tutorials, End-User Case Studies, etc.) |
| 4:40pm – 6:15pm | End User Town Hall Meeting |
| 5:00pm – 7:00pm | Speed Dating with IDC: A Channel Partner Networking Event at SNW |
| 7:00pm – 9:00pm | Welcome Reception |

### TUESDAY, APRIL 4

Registration Open 7:00am - 7:00pm

| | |
|---|---|
| 7:00am – 8:00am | Breakfast |
| 8:00am – 12:30pm | General Conference Sessions |
| 12:45pm – 2:00pm | Luncheon |
| 2:10pm – 5:40pm | Concurrent Sessions (SNIA Tutorials, End-User Case Studies, etc.) |
| 5:40pm – 8:40pm | Expo with Dinner and Solutions Center |

### WEDNESDAY, APRIL 5

Registration Open 7:00am - 6:30pm

| | |
|---|---|
| 7:15am – 8:15am | Breakfast |
| 8:15am – 12:15pm | General Conference Sessions |
| 12:15pm – 2:00pm | Expo with Luncheon |
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| 9:30pm – 11:00pm | Post-Gala Reception |

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|---|---|
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# Pandora.com SINGS With OpenLaszlo

## Music discovery service uses an open-source development platform to connect users to the songs they love. By Linda Rosencrance

IN ANCIENT GREEK mythology, Pandora, whose name means "all gifted," received many gifts from the gods, including the gift of music from Apollo. She was also very curious.

Unlike those gods of old, who were displeased with Pandora's curiosity, the developers of Pandora.com say they celebrate that trait and have made it their mission to reward the musically curious with a never-ending experience of musical discovery.

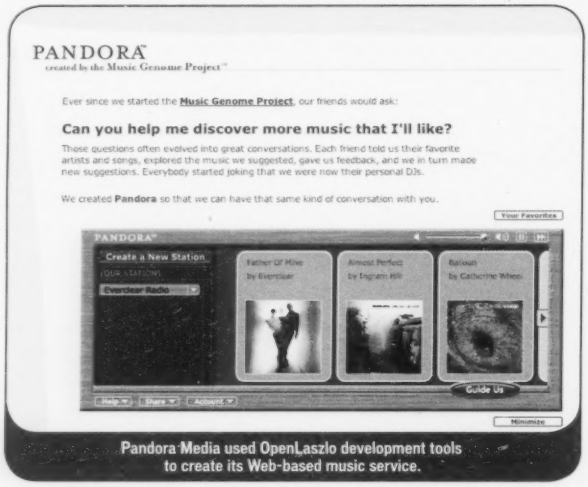
Launched on Sept. 1, 2005, Pandora is a service designed to help users find and enjoy music that they'll love, says Tom Conrad, chief technical officer at Pandora Media Inc. in Oakland, Calif. The site, built using open-source software, is powered by what the company calls the Music Genome Project, which gives users an analysis of the musical characteristics of individual songs. To build Pandora, Conrad says, developers used OpenLaszlo, an open-source development platform for building rich, interactive Web applications, from Laszlo Systems Inc. in San Mateo, Calif.

On Pandora.com, a user enters the name of an artist or a song, and the service instantly creates a radio station that plays songs that share musical characteristics associated with the artist or song provided. From there, the user can fine-tune the station to his taste by giving Pandora feedback on the songs it plays. A user can make up to 100 unique stations that play all kinds of music — pop, rock, jazz, electronica, hip-hop, old and new — from a library of more than 300,000 songs from over 10,000 artists. Because Pandora is entirely Web-based, users don't need to install any software to start listening, Conrad says.

"We wanted to build an experience that was fundamentally about audio, not about hundreds of thousands of artists' pages and recommendation pages and lots of hyperlinking and this big Web site you come to," Conrad says. "Lots of other people have already done that. We wanted to build something that was really, really simple — sort of a one-click radio [station]."

To do that, Pandora's developers wanted to have a rich, dynamic, engaging user experience that responded quickly to user input, played high-quality audio to the PC immediately and did not require the installation of an application or a bunch of plug-ins, Conrad says.

So when the developers sat down to figure out how they would build it, they contemplated two options: the Dynamic HTML approach of Asynchronous JavaScript and XML (AJAX), or Macromedia Inc.'s Flash, which pointed them toward Laszlo, he says.


PANDORA
created by the Music Genome Project
Ever since we started the Music Genome Project, our friends would ask:
Can you help me discover more music that I'll like?
Those questions often evolved into great conversations. Each friend told us their favorite artists and songs, explored the music we suggested, gave us feedback, and we in turn made new suggestions. Everybody started joking that we were now their personal DJs.
We created Pandora so that we can have that same kind of conversation with you.
Your Favorites
PANDORA
Create a New Station
YOUR STATIONS
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Almost Perfect by Ingram Hill
Balloon by Catherine Wheel
Guide Us
Minimize

Pandora Media used OpenLaszlo development tools to create its Web-based music service.

The AJAX approach, which is how Google Maps and Gmail are built, is an application development technique that lets the programmer get a more dynamic, rich-client kind of experience out of a Web browser. It allows the developer to build applications that have the interactive character of a desktop application but run in the Web browser, Conrad says.

The other approach is to use Flash for the user interactions. Like AJAX, Flash has a high level of interactivity, as well as an experience that's more like a desktop application and less like the "point, click and wait" Web, says Conrad.

Pandora ultimately chose Flash, he says, because it has rich audio playback capabilities built in and fantastic cross-platform support.

"It's identical across all the browsers — Linux, Windows, Macintosh — whereas the AJAX approaches are built on JavaScript and DHTML, which are quite different from platform to platform in some cases," he says.

While it was possible to create an AJAX application that would work across different browsers and operating systems, Pandora would have had to invest a substantial amount of work to make sure it achieved that same compatibility, Conrad says.

"It becomes very tricky in an AJAX application to get audio playback that's satisfying across platforms," Conrad says. "With Flash, you start with a much more level playing field because the Flash runtime is exactly the same on all the platforms."

### Open-source Advantage

After settling on the Flash-based approach, Pandora had to decide how it was going to build its Flash application. The developers had three choices: Build it on the native Flash platform, which is designed more for animators than for programmers; use Macromedia's new Flex platform, which is closed-source software that's similar to OpenLaszlo but a relatively younger technology; or take the Laszlo approach. OpenLaszlo had two benefits: One was its maturity, and the other was the open-source nature of the product, which was very important to Pandora.

"Being able to have access to the source, to use that for debugging, to use that as protection against changes in the business environment of Laszlo, was hugely compelling for us," Conrad says.

Pandora senior developer Neil Mix, who created 80% of the OpenLaszlo portion of Pandora.com, agrees.

"The nice thing about open-source technology is that we can actually go in and look at how the software was actually built — with closed-source software, you don't have that option, Mix says.

In about a week, he had built a prototype demonstration application of Pandora and had it fully functioning and working with the Laszlo software.

"That was an extremely fast turnaround, especially since I was programming in Flash," Mix says. Typically, the developers would have had to use Macromedia's software — an expensive proposition — or they would have had to devise their own programming system, which would be a very time-consuming and error-prone approach, Mix says.

"The Laszlo software solved all those problems right off the bat, was open-source and was very easy to develop in," he says.

Pandora was in development and beta for about eight months, Conrad says.

"That's a pretty phenomenally short development cycle for this kind of user experience," he says, "and that was facilitated by the ease with which one can construct really compelling user interactions using the OpenLaszlo platform."

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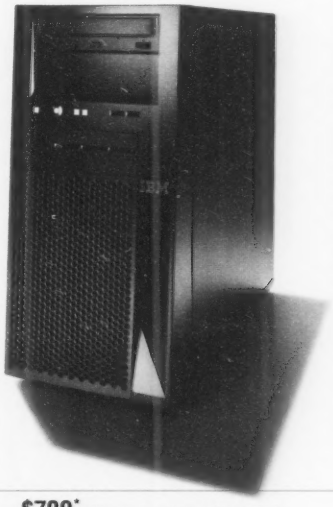

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# Preboot Execution Environment

BY RUSSELL KAY

ONCE UPON A TIME, configuring or troubleshooting a user's computer meant that someone from IT or the corporate help desk had to actually visit that computer — with installation software, diagnostics and driver disks in hand — and deal with its problems one-on-one. That arrangement was practical for very small organizations, but for the IT administrator who had to support thousands of computers, it was a nightmare.

As those thousands of computers were increasingly interconnected via enterprise networks, designers came up with an answer. During the mid-1990s, researchers at Intel Corp., along with a wide range of hardware and software vendors, began promoting an open-standards specification called Wired for Management (WfM).

Aimed at reducing the total cost of ownership, WfM allowed IT managers to interact remotely with PCs for monitoring, updating and configuring, using standardized communications software and remote management applications.

## From WfM to PXE

Implementing WfM called for standardized hardware (including circuitry, BIOS, memory, power supplies and network interface cards) in user PCs. WfM covered a range of PC networking technologies, including the Desktop Management Interface, remote wake-up (also called wake-on-LAN or service boot) and the Preboot Execution Environment (PXE).

PXE harkens back to the era before all computers had internal hard disk drives. PXE most commonly involves booting a computer from firmware — i.e., a read-only memory or programmable ROM chip — rather than from magnetic media. Booting from firmware removes dependence on an electromechanical device (the physical disk drive), which enhances reliability, eliminates drive read errors and speeds up the boot process. PXE can also be used to boot a computer over a network.

DEFINITION

**Preboot Execution Environment** (PXE, pronounced "pixie") is a type of intelligent boot read-only memory technology that first appeared in the mid-1990s as part of the Wired for Management specification. Using PXE, an administrator can remotely start a PC over a network, install a standardized operating system and run diagnostics, utilities and other software without having to physically visit the PC and without using a hard drive or boot diskette.

QUICK STUDY

Although WfM has been superseded by newer management standards, such as Intel's Active Management Technology, the capabilities that PXE enabled are still valuable tools for network administrators.

PXE is geared toward automated, unattended management of user PCs and workstations. It is based on industry-standard Internet protocols, including TCP/IP and Dynamic Host Configuration Protocol (DHCP). A PXE-enabled PC typically has a network interface card (NIC) that remains active and connected to the LAN even when the computer itself is powered down. It listens to LAN traffic for a special data sequence — the PC's unique media access control address repeated six times. When the NIC receives this "magic packet," it powers up the PC. For this to occur, wake-on-LAN must be specifically enabled in the PC's firmware BIOS. Wake-on-LAN can be problematic for some very old PCs, because it requires a power connection between the NIC and the motherboard — a definite hardware requirement that can't be fudged with just a BIOS update. This isn't a problem for most enterprise PCs, however.

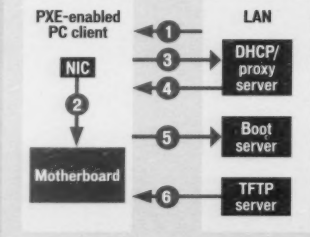
Once the local PC wakes up, it starts up the network card and configures itself. Making use of PXE requires an appropriate server infrastructure. When a PXE client boots, it must do two things. First, it obtains an IP address from a DHCP server. Unfortunately, PXE calls for some options that may not work on all DHCP servers, so most software that supports PXE also includes a proxy DHCP service. This proxy service doesn't offer IP addresses directly but does allow DHCP operation.

After connecting to the DHCP server, the system locates a PXE boot server that will send it the appropriate files from which to boot. The DHCP server provides a boot file name, and the PC then downloads it from a Trivial File Transfer Protocol (TFTP) server.

Once PXE is enabled — anytime the PC boots up — an on-screen message appears, offering the user the choice of booting to PXE or continuing with the normal boot sequence from the local hard disk or optical media.

PXE offers a menu of boot options that can include a variety of maintenance and diagnostic tools that do things like scan for viruses, check the integrity of hard drives, inventory installed software, update drivers or even install an entirely new operating system on the PC. All this can be done remotely and largely in an automated fashion, with little or no hands-on intervention required.

## PXE Boot Process




1. NIC listens to LAN traffic for specific data sequence.
2. NIC hears "magic packet" and turns on PC via power connection to motherboard.
3. PXE client requests IP address from DHCP or proxy server.
4. DHCP server provides boot file name.
5. PXE client requests file from boot server.
6. PXE client downloads boot file from TFTP server. PXE client boots from downloaded file.

*Kay is a* Computerworld *contributing writer in Worcester, Mass. You can contact him at russkay@charter.net.*

For a list of Web sites with information on PXE boot, see:
**www.computerworld.com/thisweek**

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# Breached! A Security Manager's Nightmare

**A fluke discovery that personal information is visible on the Internet triggers a bit of panic at a state agency. By C.J. Kelly**

SECURITY MANAGER'S JOURNAL

IT FINALLY happened. We had a security breach that could have severe ramifications for a state agency.

I was packing up to leave on a Friday when the webmaster came into my office and shut the door behind him. It was unusual for him to be in the office so late, and he looked particularly nervous. So I took off my coat, set down my briefcase and sat down. He refused the chair I offered him.

"OK, what's going on?" I asked.

"Well, uh, I think we have a problem with one of our Internet Web sites, and I'm afraid to tell you about it, but I think I have to, and I've already fixed the problem, but you might need to know about this, since you are the information security officer," he rambled. I held up my hand as if to say "Stop," and he collapsed into a chair with tears in his eyes.

I have dealt with plenty of security incidents in my time, and I couldn't imagine what could be so horrible that he was afraid to tell me. I smiled and told him to take a deep breath and start from the beginning.

Here's what he told me: An employee was doing a Google search on the name of a client of the agency, when up came the URL for an agency directory. She clicked on the link and, lo and behold, the supposedly password-protected page appeared with the client's Social Security number on it, even though the employee hadn't been asked to log in or use a password. Social Security numbers are "personally identifiable" information, as defined by the Health Insurance Portability and Accountability Act (HIPAA), and we're subject to its security and privacy rules.

The employee immediately called the webmaster, who started reviewing the file structure, moving files and changing permissions, all the while generally panicking.

This was huge. It was my turn to take a deep breath. Why, I wanted to know, are we storing client data on an external Web server? That flies in the face of everything having to do with security! The answer: It had always been done that way. I took another deep breath and pondered some realities.

Our inexperienced webmaster is responsible only for content, while our Web site management is outsourced to the state-level webmasters. Our Web sites are hosted by the state in its data center. With so many cooks, it's not surprising that a disconnect of this sort could happen.

> I have dealt with plenty of security incidents in my time, and I couldn't imagine what could be so horrible that he was afraid to tell me.

Before he left, I told the webmaster, "This weekend, you cannot allude to this even in casual conversation unless you want to see our agency on the front page of Monday's paper — understood?"

There was nothing that could be done over the weekend, and the immediate error in configuration had been fixed. I needed to think about what steps to take. I knew that the law states that an "unauthorized disclosure" has to be reported in a timely manner and that all persons whose personal information is compromised must be notified. And I had developed the incident response policies and procedures, so those didn't worry me. But a political misstep would be painful for our agency.

On my way out the door, I dialed my boss's cell phone number but got no response. That was OK; I wasn't ready to talk to him yet. The weekend was a sleepless one. I tried to distract myself with family duties, but I thought about the incident every minute.

## Monday Morning Blues

On Monday, I fought the traffic to get into the office early. I hadn't been able to get in touch with my boss over the weekend, but I hadn't tried very hard either. Now, I stepped into his office and gently tapped on the door.

Then I really got his attention by telling him that a security incident had come to my attention on Friday evening and I needed to get him up to speed before he heard about it from someone else.

I told him what details I had at that time and explained that I would at that point be following policy and procedure in handling the investigation. But he needed to understand that under HIPAA and state law, if the results of my investigation turned out unfavorably, we would be required to inform all our clients that their personal information had possibly been compromised.

After he absorbed this disturbing news, I asked him what he knew about the site's design. The answer: very little. (My boss has a background in software development and programming, but I wasn't surprised that he didn't know much about the architecture of this site.)

I said the site would have to be redesigned, with several layers of security added. The least of that would be making sure that personally identifiable information resides in a database behind a firewall, not on a public Web server.

Then we spent a few moments commiserating, since we are both relatively new to the public sector and are still prone to making assumptions about the way things are done. For example, we both assumed that a state-run Web site would be constructed properly.

## Looking to the Future

I'm in the midst of the investigation now. The key will be determining whether any "unauthorized" disclosures were made. The employee who stumbled across the problem is authorized to access the data in the directory, so there's a chance that no unauthorized disclosure took place.

Right now, I'm searching through a year's worth of Web site logs and identifying the source IP addresses from which the various URLs were accessed. I have also imported the Web site to one of our local servers in order to perform a security review. I'm hoping I find nothing worth reporting.

### WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com, or join the discussions in our security blogs: **computerworld.com/blogs/security**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

## SECURITY LOG

### Database Security Tool Due in March

Application Security Inc. says the 3.0 release of its AppRadar database security product delivers compliance-ready auditing and intrusion detection in real time. It lets customers define at a granular level the criteria for events to be monitored, as well as which data is to be monitored. It also provides dynamic vulnerability assessment and protection through tighter integration with AppDetective. AppRadar 3.0 will be available next month and cost $10,000 for a console license and $2,000 annually per monitored database.

### Three Compliance Modules Released

Imperva Inc. released three compliance modules for its SecureSphere Gateway appliances that automate assessment, auditing and protection for Payment Card Industry, HIPAA and Sarbanes-Oxley Act rules. SecureSphere provides monitoring and security from the Web application front end to the database back end, along with the underlying operating system and network layers. It does this by combining the features of a database security gateway, Web application firewall, network firewall and intrusion-prevention system. Pricing starts at $42,500 for a SecureSphere Gateway appliance bundled with support for unlimited databases and one compliance module.

### Russian Exchange Hit by Malware

The Russian Trading System was downed by malware for about an hour on Feb. 2. The infection caused an unusually large amount of outbound traffic and overloaded the Russian stock exchange's routers.

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## BRIEFS

### Exadel Studio Supports AJAX

■ Exadel Inc. said the latest release of its flagship enterprise Web application development environment now supports Asynchronous JavaScript and XML, or AJAX. Exadel Studio Pro 3.5, available now, sells for $199 per license, including one year of technical support and updates. The standard edition of Exadel Studio 3.0 remains available as a free download.

### Trade Promotion Analytics Announced

■ Business Objects SA last week announced a new analytic application designed to let consumer packaged goods companies better measure and manage the return on investment for their trade promotions. BusinessObjects Trade Promotion Effectiveness Analytics is shipping now. Pricing starts at $150,000 for 100 users on a four-processor system.

### Samsung Unveils SpinPoint Drives

■ Samsung Electronics Co. has announced two new laptop hard drives and two Serial ATA hard drives for servers and desktops. The drives, part of the vendor's SpinPoint family, include 8MB of onboard data cache, speeds of 5,400 rpm and noise-reduction features. Available now, the M60 Series laptop drives are offered in capacities of 100GB for $150 and 120GB for $180. The M60 SATA desktop and server drives are available in 100GB and 120GB models and are priced at $170 and $200, respectively.

### QP7.Framework Gets an Update

■ Version 7.2 of Quantum Art Inc.'s content application server features expanded developer tools and wider support for Visual Basic, JavaScript and the J# and C# languages. QP7.Framework starts at $10,999 per CPU and is also available as a hosted service, according to the San Francisco-based company.

CURT A. MONASH

# Three Views from the Top Of the Software World

THE computer software industry has three essential vision leaders — "IBMOracle," Microsoft and SAP. They have a lot in common, such as huge market share, mind share, customer access, financial resources and so on. And being based on the same industry realities, their visions have a great deal in common. But there are great differences, and it's important to keep them in mind. Whether you're looking at buying from the big guys or just using them as templates for your own analysis, the question "What would SAP/Microsoft/IBMOracle advise us to do?" is at least three separate questions.

**CURT A. MONASH** is a consultant in Acton, Mass. You can reach him at **curtmonash@monash.com**.

Why not four? Well, it often is. But there's a reason I coined the word *IBMOracle*. Notwithstanding many obvious differences between the two companies, IBM's and Oracle's views are aligned much more often than not. In the IBMOracle view, data — a.k.a. information — is king. IT's job is to manage the data powerfully, reliably and (not always the top priority) cost-effectively. Whether they're talking about hardware, database management, middleware, applications or professional services, the same data-centric view usually pokes through.

Microsoft's vision, however, is quite different. It's first and foremost about empowering people, at least to the extent that making them better corporate employees can be regarded as empowerment. In the 1980s, while IBM talked about "information centers," Microsoft talked about "information at your fingertips." In the 1990s, Larry Ellison started talking about huge, marvelously efficient parallel supercomputers (and later grids). But when Bill Gates got that far ahead of himself, he was often talking about speech recognition or some other cool user interface.

While IBMOracle talks about information and Microsoft talks about people, SAP talks about business processes. SAP's core vision isn't really about technology at all. Rather, SAP thinks about what enterprises actually need to do and then provides automated support for those actions any way it can.

On a good day, this lack of technical dogma can lead to clever, eclectic pragmatism. On a bad one, a better phrase might be "baroque complexity." On the whole, I think SAP's choices and strategies are fundamentally sound. And even if SAP and I are wrong about that, what it's doing is at least instructive. Here are some of SAP's most interesting ideas.

**It's the services, stupid.** SAP has made a firm commitment to Web services encapsulation, pledging to publish a set of interfaces and then hold them stable for at least 10 years. Several dozen services will be specified this way, corresponding to rather coarse-grained objects, such as customers, orders and so on. Finer-grained encapsulation was dismissed as leading to too much impractical complexity. The term *encapsulation* is mine, by the way, not the company's, but I think it really fits. I always thought encapsulation was the most important aspect of object orientation anyway.

**Relational, schmelational.** SAP is by far the world's largest seller of relational applications. In fact, it may be the world's largest reseller of relational database management systems — especially Oracle — as well as a top 10 vendor of original RDBMS technology because of MaxDB. Even so, SAP has publicly stated that it views XML-based services as a liberation from the limitations of the relational model. And before XML, SAP's preferred interface was BAPI. To SAP, the structure of objects matters.

**There are many ways to integrate.** Once upon a time, SAP was known for imposing huge monoliths of integrated databases onto its customers. Things have changed. Sure, those services I mentioned drill down to, on average, several hundred tables each. But there are also services-based integration and composite application development tools. And semi-ad-hoc, portal-based collaboration around business intelligence reports. Plus all the standard integration you'd expect from a complex data-mart architecture and a portal-based suite of BI/dashboard tools. There are many different ways to integrate your processes and systems, and different ones will be appropriate for different purposes.

Microsoft, SAP, IBM and Oracle all have their share of technical clunkers. And even when they're right, it's often from borrowing smaller companies' ideas. But you have to listen to what they say. And when you do, you'll often hear at least three very different things.

For some of my more detailed thoughts about these vendors and their strategies, please see my three main blogs — the Monash Report (*www.monashreport.com*), DBMS2 (*www.dbms.com*) and Software Memories (*www.softwarememories.com*). ▸

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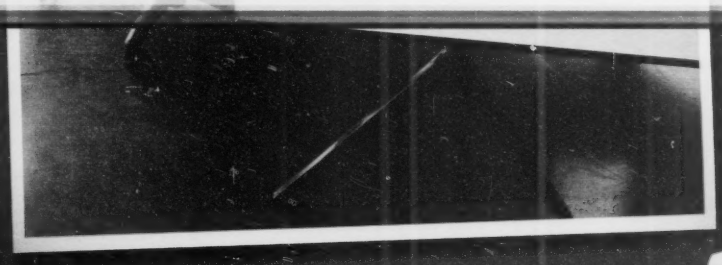

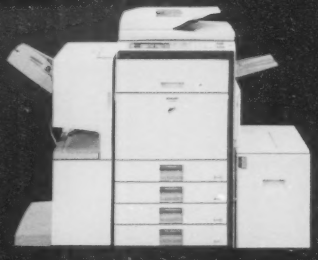

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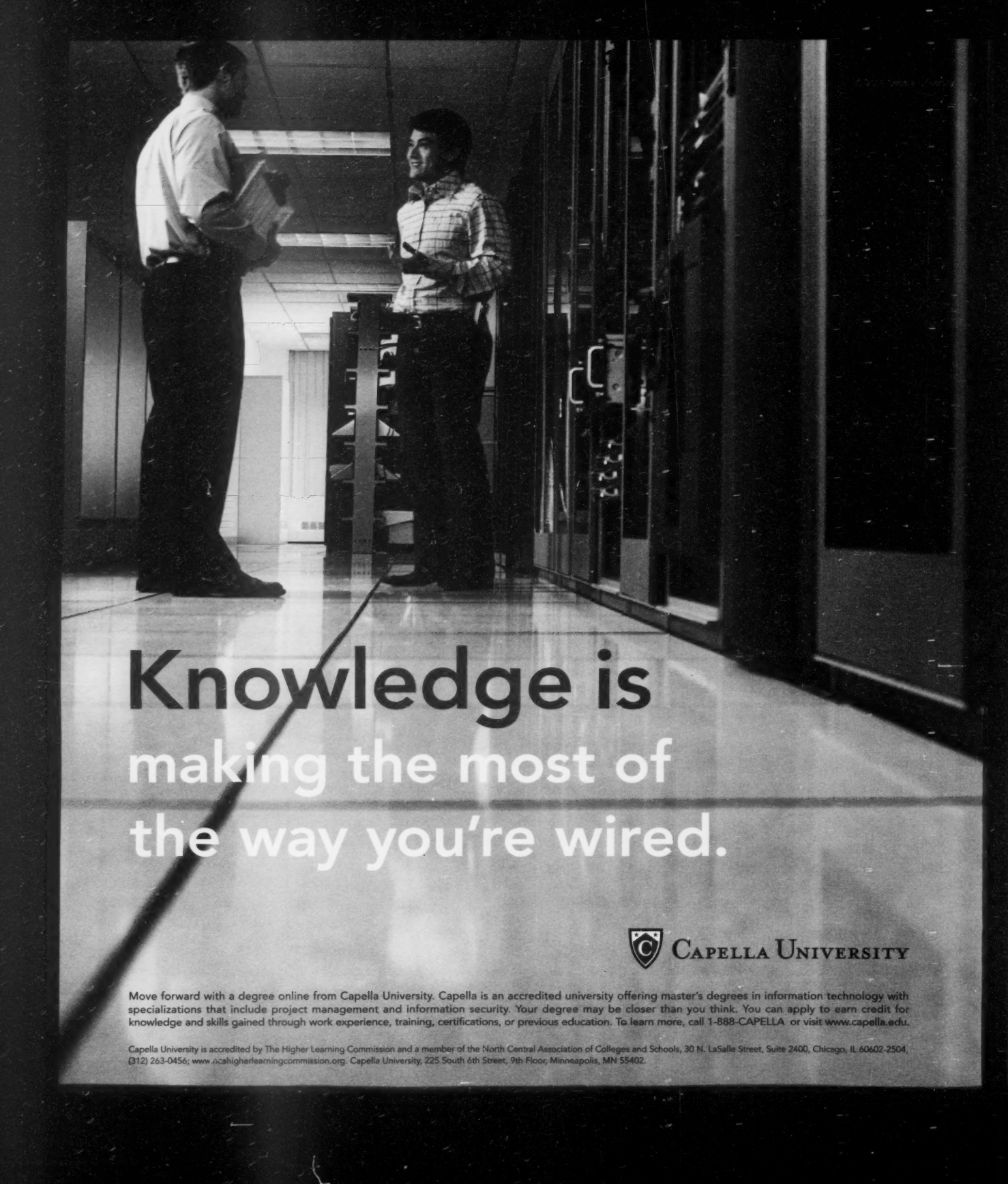
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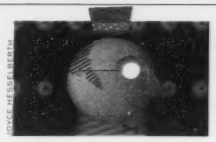
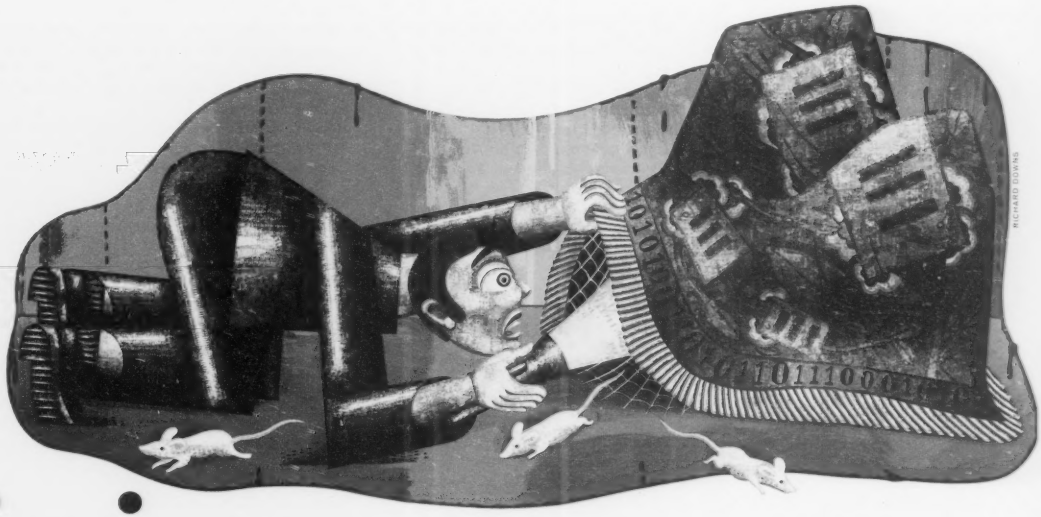
**Security Convergence**
Physical and information security departments are slowly and warily beginning to come together.
**PAGE 46**



**Managing Mavericks**
They keep your IT organization honest, they're catalysts for change, and they're pains in the neck. How do you channel that energy?
**PAGE 50**

**OPINION**
**Charge-out: How to Do It Right**
Charge-out is one of the hallmarks of a sophisticated organization, says Bart Perkins, but if improperly implemented, it can do more harm than good. **PAGE 53**



# Shining a Light On Maintenance

## CEOs are demanding to know what's under the maintenance rug. **You'd better find out first.**

BY MARY K. PRATT

AT A RECENT conference for chief financial officers, participants and presenters appeared to agree that IT maintenance is more than a huge budget line for nondiscretionary spending. The consensus was that it's become something of a slush fund for virtually any costs CIOs want to hide, from R&D skunk works to rogue projects. This assessment of maintenance may or may not be true at your company, but if your executives perceive it to be true, you've got an image problem. And if it is true, you've got a bigger problem.

Maintenance is "a huge black hole," says Robert Rosen, CIO at the National Institute of Arthritis and Musculoskeletal and Skin Diseases in Bethesda, Md., and president of Share, an IBM user group. "I have not seen anyone taking a step back and saying, 'OK, we have all these

# Illuminating Assets

**Phil Murphy compares IT to a messy warehouse that "you've been dumping stuff into and taking stuff out of – rarely – for 25 years."**

**That history leaves many executives wondering what their IT organizations actually own, he says. And with good reason. "You cannot manage what you cannot measure," says Murphy, an analyst at Forrester Research.**

**As CIOs face greater pressure for transparency in their budgets, they're finding that an accurate inventory of applications, systems and hardware is a key first step. PricewaterhouseCoopers recommends a four-part process that Carl Tudor, director of the firm's advisory practice, summarizes this way:**

**1** **Inventory hardware and software, as well as the business processes that each piece supports.**

**2** **Look at hardware and software contract management – purchasing agreements, vendor maintenance agreements and the like. Establish what you own, lease and rent.**

**3** **Reconcile what you actually have with the sum of what you officially own, lease and rent. This helps identify assets that are off the grid, such as rogue software programs that employees have installed against company policy.**

**4** **Learn to use all this information to drive decisions and allocate assets. Knowing exactly what you have and what the pieces are used for should help you make smarter decisions about life cycles, consolidations, upgrades, maintenance agreements and more.**

– MARY K. PRATT

systems; what does it really cost to keep these things running?' "

If you're used to sweeping wish-list items under the maintenance rug, experts say you're probably spending more than you should on initiatives that aren't aligned with corporate priorities or return-on-investment expectations. Moreover, without a clear view into what's being spent and why, you lose the ability to assess risks and assign responsibility.

Some CFOs and CEOs, driven by tightening budgets and governance standards, are demanding more details from their CIOs about the costs that fall under the maintenance header. The result is more transparency, which brings better accountability, smarter decisions on spending and, ultimately, more credibility for IT.

"More and more business leaders are demanding that accountability on the IT budget," says John Stevenson, vice president and CIO at Sharp Electronics Corp. in Mahwah, N.J. "IT leadership has to have a handle on costs, because the details of the IT expenditure are now being put on the table and they can't say, 'This is a black box.' "

## Long Time Coming

The current frustration with IT maintenance budgets isn't the result of an overnight revolution within corporate America. Phil Murphy, an analyst at Forrester Research Inc. in Cambridge, Mass., and author of a recent report titled "Stop Treating Maintenance as a Chore," says the situation has been building for years. "Maintenance budgets are higher than they should be," Murphy says, but he blames that on shortsightedness rather than malfeasance. "I don't believe it's a 'let's hide the money in maintenance' malicious activity," he says.

"The thing that governs maintenance is political power," Murphy says. "There is collusion, but it's not at the level you think. It's not the CIO stockpiling money to hide." He thinks that companies have been ignoring the maintenance mess as they have focused on promising technologies. That's one reason why many are spending 75% or more of their IT budgets on maintenance, Murphy says. "Now we have to pay the piper," he adds.

Maintenance budgets are also high because of something Murphy calls "leakage." That's when an IT staffer who's tight with a business-unit leader helps get the unit's wish-list project done "one bug fix at a time." On the pretext of fixing a system, they're really slowly converting it to a new system — under cover, he says.

Part of the confusion arises because companies put slightly different items under the maintenance budget heading. Generally, it includes vendor fees and labor to maintain existing systems. It also includes costs for activities that keep the whole IT infrastructure running, such as fixing a bug or adding a user. For a long time, corporate leaders didn't question this spending because it was viewed as nondiscretionary. But over the years, some maintenance budgets have come to include spending that should be listed under other headings, such as research and development or new projects. How much of that is the result of deception, mislabeling or misinterpretation isn't clear.

"Do people label enhancements and upgrades exactly the same way, every time, company to company? I don't think so. There's no bright line," says Joel D. Jacobs, deputy CIO at The Mitre Corp., a not-for-profit company with headquarters in Bedford, Mass., and McLean, Va., that provides technical and R&D support to the government. Jacobs says Mitre saw its vague definition of maintenance as a problem and decided to do something about it.

Two years ago, Mitre changed its working vocabulary to enhance understanding between business and IT and get a better handle on how it was spending its money. Part of that change was to break the IT budget into more-accurate headings. Mitre had once used "operations," "maintenance" and "development," then "frontier work," "utility" and "productivity" as IT budget headings. Now the labels are "nondiscretionary," "core services" and "initiatives/service enhancements." (Jacobs says there's still some discussion on whether that third category should be separated into two.)

Jacobs stresses that Mitre focused on more than just vocabulary. Business and IT leaders looked at what was to be included under each item. "We have to have a collective agreement about what it means," he says.

As the name implies, the nondiscretionary heading includes contracted fees and expenses. Core services are defined as same-level services — "operation and maintenance in the strictest sense," Jacobs says. The initiatives/service enhancements heading, he says, is "where things are going, what we chose to fund, where we have a certain amount of discretion on this vs. that."

The budget breaks down like this: 35% to nondiscretionary, 57% to core lights-on, day-to-day operations, and 8% to enhancements and initiatives.

Those percentages may not be fun to work with, but at least Mitre knows where it stands, and that's the first step toward managing costs better. Many IT leaders don't have a good handle on maintenance because they don't have an accurate count of their IT assets and the cost of running each part, says Murphy.

Kaiser Permanente is decidedly not one of them. Michael Blake, vice president and CFO at Kaiser Permanente Information Technology in Oakland, Calif., has worked for the past two years to assess and analyze the health

*Continued on page 45*

# Check Those 'Fixed' Fees

**Some CIOs consider maintenance fees – the 10% to 25% per year that vendors charge in addition to licensing fees – to be a fixed expense. But savvy executives are getting better at negotiating these contracted costs.**

**"There's a lot of opportunity to go after and renegotiate maintenance contracts," says Michael Blake, vice president and CFO at Kaiser Permanente Information Technology.**

**As more CIOs try to rein in their maintenance spending, they're more closely examining the value of those annual maintenance fees, says Kathy Quirk, research manager at Nucleus Research Inc. in Wellesley, Mass. As they understand the value, "they're in a better position to ask for more for what they're paying," she says.**

**CIOs are also realizing that they can lower their vendor maintenance fees as they get a better account of what they actually have, Quirk adds. Companies that have inventoried their software programs and corresponding costs often find that they have more licenses and maintenance fees than they need. Some also find that they're paying maintenance fees on programs they no longer use.**

– MARY K. PRATT

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*Continued from page 42*

care provider's IT assets, including 5,600 professionals and an annual operating budget that exceeds $1 billion. "We try to understand different applications, projects and services," he says.

The result is a lot more detail on how much the various parts of his large and complex organization cost. For example, IT has more than 1,700 applications, projects and services, Blake says, and it uses time reporting and a chargeback mechanism to keep tabs on costs, as well as who and what are driving them. "I call it transparency," he says.

In the past, IT might talk to the business units about investing in data centers and people doing "break-fix," Blake explains. "But that was IT telling the business in IT-speak what they're paying for," he says. "And the business couldn't really translate."

Today, he can tell business leaders how much it costs to run Kaiser Permanente's appointment systems or a class of PCs or laptops. With this view, Blake says, he and other business-unit leaders know how much systems cost to keep on and, perhaps more important, what value they provide to the organization. "This allows us to have a more informed conversation," he says. "And understanding your current costs allows you to better make those value decisions."

> **Transparency will bolster your credibility.**
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> **MICHAEL BLAKE,** VICE PRESIDENT AND CFO, KAISER PERMANENTE INFORMATION TECHNOLOGY

Having just recently achieved this transparency, Blake says, Kaiser Permanente has yet to start making the decisions that could yield savings. However, he adds, when he implemented a similar process at a large retailer, the results were quick and impressive. For example, Blake found that the company was spending more than $100,000 to maintain an application that generated a logistics report that only two people used and that could be obtained through other systems.

The transparent view of the maintenance budget that Mitre and Kaiser Permanente are achieving will slowly come to other companies, experts say, and it behooves CIOs to get started.

"CFOs are actually starting to push back on this," says Mark Lutchen, a senior partner in the IT Effectiveness practice at PricewaterhouseCoopers.

CIOs who don't create greater visibility into — and controls over — their maintenance budgets won't be able to hold on much longer, says Lutchen, a former CIO at PricewaterhouseCoopers and the author of *Managing IT as a Business: A Survival Guide for CEOs* (John Wiley & Sons, 2003). "CFOs and CEOs aren't going to tolerate the lack of discipline. The new generation of executives is becoming savvier about IT; they're not afraid of it," he says. "They will force the issue."

As CIOs start to work on greater visibility into maintenance expenses, it will bring savings and closer alignment with the business. And demonstrating greater control may even boost their budgets. "Transparency will bolster your credibility," says Blake. "And when you're transparent, you can make a case for the things you know will change the business." ▸

*Pratt is a* Computerworld *contributing writer in Waltham, Mass. You can contact her at marykpratt@verizon.net.*

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"IT Investment Portfolio Management: Translating IT Governance Objectives Into Corporate Performance," a PricewaterhouseCoopers white paper, is available at:

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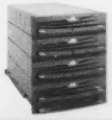

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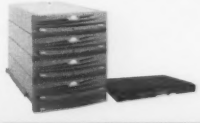

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DAVID HOLLENBACH

# Security CONVERGENCE

## Physical and information security are slowly beginning to come together.

**BY THOMAS HOFFMAN**

IN MANY respects, the physical and information security groups that coexist within companies are as different from each other as J. Edgar Hoover and Bill Gates.

Physical security staffs predominantly consist of former law enforcement officials who report to legal, compliance or risk management departments, whereas information or logical security departments typically have employees with technical backgrounds who are part of the IT organization. Physical security divisions tend to focus on the three G's — guards, guns and gates — while logical security groups usually concentrate on safeguarding information systems.

There are a few companies where the two entities are structurally connected, but most are not. Still, a growing number of executives have recognized the value of having these groups collaborate to share tactics such as loss-prevention techniques for retailers or the use of card systems to restrict personnel access within a facility.

According to a survey of 8,200 IT and security executives in 63 countries conducted in March and April of 2005 by PricewaterhouseCoopers and *CIO* magazine, 53% of organizations have some level of integration between their physical and IT security divisions. That's up from just 29% in 2003.

"People are recognizing that the two groups can't stay in their own towers," says Anne Rogers, vice president of marketing at the Information Systems Security Association (ISSA), a not-for-profit international organization of information security professionals and practitioners.

Collaboration can be as simple as having an information security group send an e-mail warning staffers about a fast-moving Internet virus while the physical security group posts signs around the building as a secondary reminder, suggests Angel Cruz, chief information security officer at Freescale Semiconductor Inc. in Austin.

### Different Worlds

Although the benefits of security convergence are obvious, there are huge cultural challenges to collaboration that physical and information security organizations must overcome.

For starters, IT workers typically embrace new systems and like to play with them to see how they might be applied to their work, whereas physical security personnel are usually more skeptical and standoffish about emerging technologies, says Steve Hunt, president of 4A International LLC, a security consulting firm in Chicago. Those differences can lead to a disparity in terms of how the two groups evaluate and adopt security technologies, he adds.

Compensation is another bugaboo. Hunt says a physical security chief for a Fortune 500 company with 20 years of experience typically earns about $60,000 a year, while an IT security manager who has been with the same firm for just two years generally commands twice as much. "It can be a real train wreck, and you can't normalize the salaries," Hunt adds.

Ownership battles can lead to increased isolation rather than collaboration. "In a lot of places where you have a strong physical security component and an information security program, the worst that happens is they shut each other out and say, 'This is our problem; we'll take care of it,' " says Jon Miller, president and founder of InfraGard Long Island Members Alliance Inc. InfraGard is a chapter of the cybercrime security initiative set up by the FBI in 2001 to improve cooperation between federal law enforcement officials and the private sector.

Gaps in training are another problem. These can include things as simple as a patrolling security guard not understanding the importance of turning off workstations that have been left on, says Dave Cullinane, president of the ISSA and chief information security officer at Washington Mutual Inc. in Milwaukee.

Despite the difficulties, security convergence has progressed among leading-edge companies where physical and logical security groups have collaborated frequently, says Vish Gan-

*Continued on page 48*

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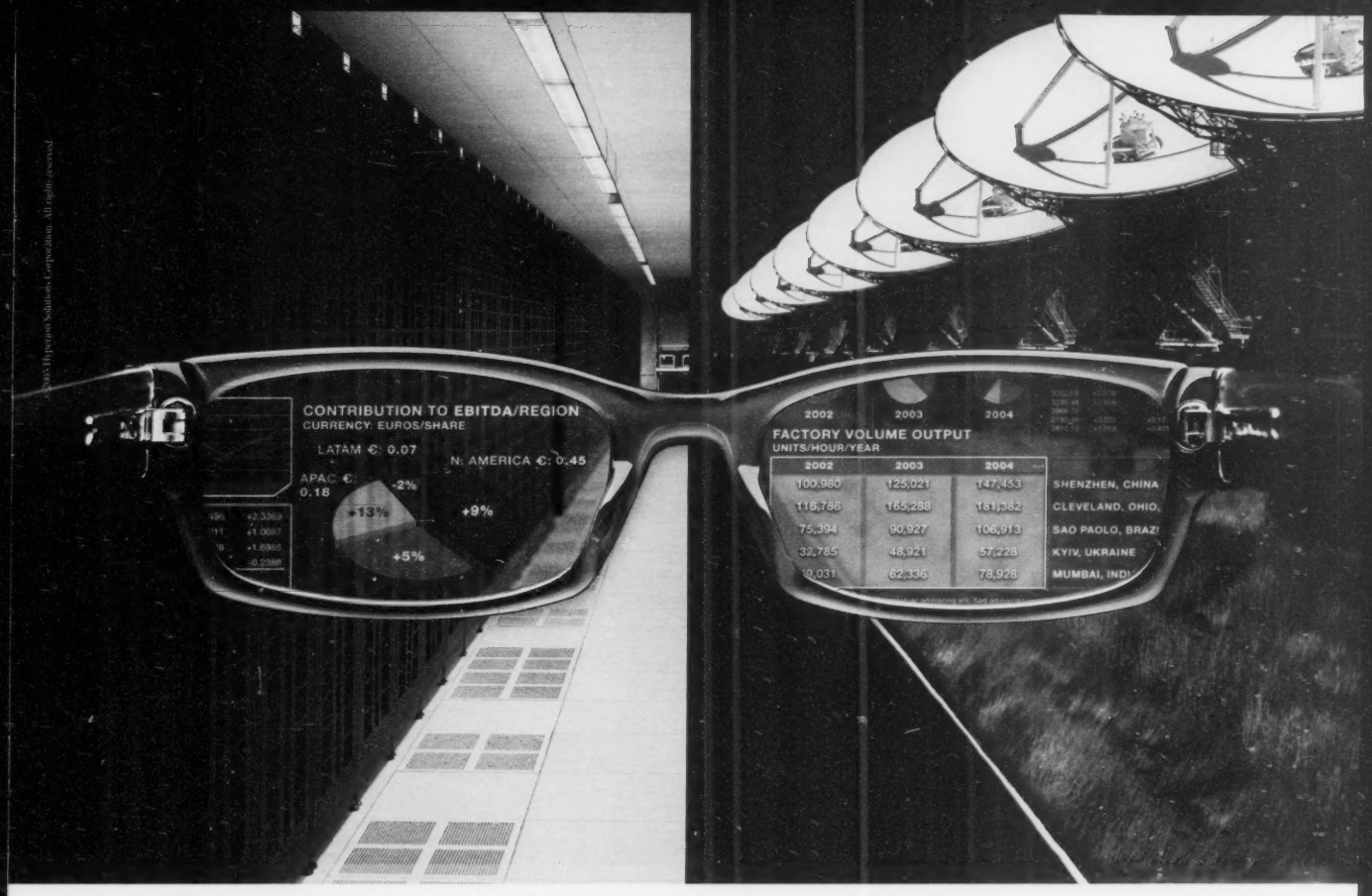


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## THE FACTOR

prominent user groups for security professionals have recently begun working together to address convergence.

In February 2005, the Information Systems Audit and Control Association (ISACA) in Rolling Meadows, Ill., and the Information Systems Security Association formed an alliance with Alexandria, Va.-based ASIS International, an association of physical security specialists. The alliance will address risk management and emerging regulations through a more thorough, collaborative, enterprisewide approach to security.

As part of this collective effort, each of the three groups has opened up its user conference to the others' members, says Marios Damianides, past president of the ISACA and a partner at Ernst & Young LLP in New York. In addition, the three groups have agreed to add a convergence track to each of their conferences, he says.

"It's almost like the [physical and information] security organizations aren't talking to each other, and they need to be," says Damianides.

Last November, the alliance members commissioned a study by Booz Allen & Hamilton of factors that are driving convergence, and executives plan to gather early this year to discuss a three-year action plan for the alliance.

– THOMAS HOFFMAN

*Continued from page 46*

pati, senior associate of enterprise resilience at Booz Allen & Hamilton Inc. in New York. "Some companies don't realize that convergence is needed. Others see the need to do something about it," he says.

Ganpati points to a pharmaceutical company where the IT department had started installing a virtual private network security system and the physical security division was implementing a card identification system. After recognizing that there was a lot of overlap, the two groups collaborated and knocked 15% off their combined costs. They also impressed the CEO, he says.

The two teams also work closely together at Bank of America Corp., where collaboration is so ingrained in the corporate culture that cooperation between departments doesn't need to be structurally imposed, says Doug Smith, corporate information security and business continuity executive at the Charlotte, N.C.-based bank.

"When I came to the bank [in 2002], I asked for an organizational chart and people laughed at me. There isn't one," says Neil Gallagher, Bank of America's homeland security executive.

Smith says the bank's reliance upon Six Sigma processes helps its managers and staffers to recognize "opportunities when we can do something better" — even when there aren't formal convergence points between its physical and information security groups.

A prime example of this kind of teamwork is the collaboration between the bank's information security division and its internal and external auditors to root out Nigerian investment scams, says Gallagher. In most fraud investigations, the bank's corporate security department conducts the financial investigation, along with related interviews and research. But when the scams are based on e-mail solicitations, the information security group supports the investigative efforts.

While the details change with the specifics of each case, the information security group may, for example, conduct research on network activity to support the fraud investigation. "The key here is that these efforts are not separate but closely coordinated," Gallagher says. And this collaboration resulted from conversations between managers for each group, not a corporate mandate, he adds.

The diversity of both groups' staffs also facilitates teamwork. Bank of America's physical security division has a lot of staffers with technical backgrounds, and the information security department has several people with Secret Service experience and other government security backgrounds, says Smith.

"Effective investigations demand drawing all of the talent you have available to you," says Gallagher.

Waste Management Inc. began converging its physical and logical security groups three years ago to monitor its fire alarm, burglar alarm, facility access and digital video recording systems. Now, instead of paying security firms to monitor fire and burglar alarms, Waste Management does it in-house. It also netted $500,000 in first-year cost savings and cost avoidance, says Rogers, who in addition to her role at the ISSA is director of information safeguards at the Houston-based trash hauler.

Internal monitoring of digital video systems also contributes to other cost savings and business efficiency. Verifying alarm situations with video, for example, can help Waste Management avoid having to pay fire and police penalty charges for false alarms.

The convergence efforts helped the two groups link in-house video with an automated scale transaction system that functions like a point-of-sale (POS) system for the trash-hauling business, says Rogers. Dump trucks are weighed at landfills and transfer stations and are charged based on the weight of their loads. These transactions feed into Waste Management's revenue and billing systems. The in-house video system records images of the trucks so that the firm can track license plate numbers, identify the types of vehicle and view each truck's contents.

"When we integrate the transaction data with the digital images of the truck, we have both the visual image and the transaction information stored together," says Rogers. That helps reduce data storage costs, and network access to the digital video systems also reduces the time and cost required for camera audits of its scale transactions.

In the retail industry, security convergence is most prominent in the area of loss prevention, where some merchants are using electronic article surveillance tags (which trigger an alarm if not inactivated by the cashier), and may eventually progress to RFID tags, says Steve Stone, CIO at Lowe's Companies Inc. in Mooresville, N.C.

Stone gives this example of how information and physical security can complement each other: The IT group at Lowe's produces a set of reports that evaluate point-of-sale trends. If managers identify a pattern of suspected malfeasance at any of the registers, they can use in-store cameras to see if there's anything that corroborates the POS data, which is time-stamped.

At some companies, however, collaboration is still pretty basic. Last year, C. Warren Axelrod, director of global information security at Pershing LLC, which provides services to investment banks, oversaw a project for sending the company's storage tapes off-site. He enlisted the aid of Jersey City, N.J.-based Pershing's physical security and facilities departments to physically secure the tapes en route. "There are times when it makes sense to combine both areas," he says.

But Axelrod, like many of his peers, acknowledges that security convergence is still an evolving area. "There's a lot of cross-support and information-sharing that takes place," says Axelrod. "But most of the time, we're working on completely different things."

# The Compliance Component

**BY SOME ACCOUNTS,** regulatory requirements such as the Sarbanes-Oxley Act have led physical and information security departments to work more closely with each other.

ROGERS: Regulations "have highlighted security."

For instance, under Section 404 of Sarbanes-Oxley, executives at publicly held companies are required to attest to both the physical and logical controls they have in place for data centers where sensitive financial information is processed and stored, says Chris Pick, vice president of corporate strategy at Houston-based NetIQ Corp., a provider of integrated systems and security management tools.

Another regulation that may be helping to drive convergence is the Gramm-Leach-Bliley Act, which requires that financial services firms notify customers if there are any breaches in the security of customer information.

The law has led physical and logical security groups at banks, brokerages and insurance companies to work more closely together to address threats to privacy, such as the theft of a laptop containing customer information or a hacker gaining access to sensitive customer data, says Dave Cullinane, president of the Information Systems Security Association.

But while some security managers see a connection between regulatory compliance and convergence, others downplay it. "I haven't seen regulations drive changes in behavior" between the two constituencies, says Mark Lobel, a partner in PricewaterhouseCoopers' process improvement practice in New York.

Most likely, regulatory requirements have reinforced security convergence one company at a time. For example, at Waste Management, the regulations have raised the risk level and "have highlighted security in everyone's view," says Anne Rogers, director of information safeguards at the company.

At the very least, regulatory requirements such as Sarbanes-Oxley are prompting security professionals in each camp "to open up a dialogue about what's needed, with each other and with their legal and audit divisions," says Vish Ganpati, senior associate of enterprise resilience at Booz Allen & Hamilton.

– THOMAS HOFFMAN

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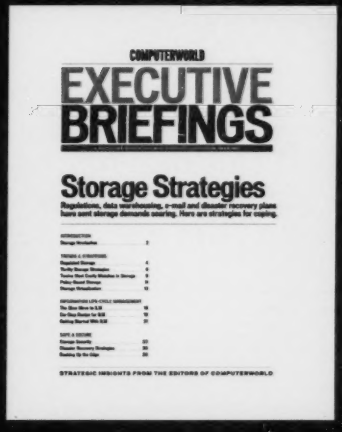


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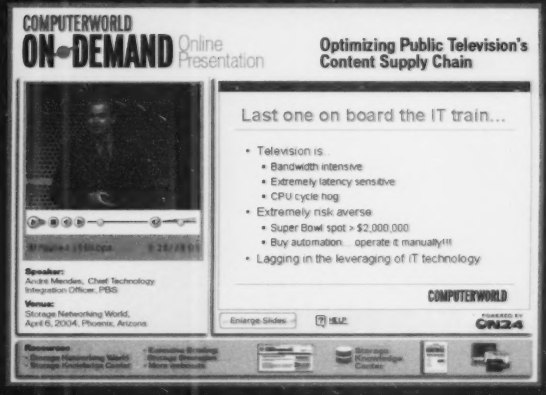


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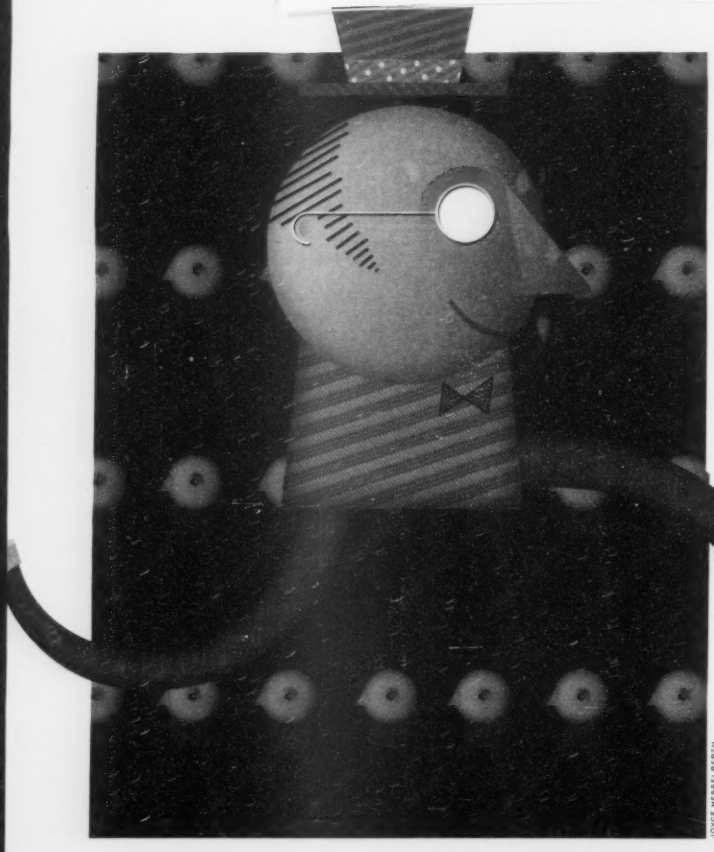
# Managing Mavericks

## Are they treasured resources or pains in the neck? It may depend on your ability to channel their energy.

**By Mary K. Pratt**



JOYCE HESSELBERTH

**mav·er·ick** *One that refuses to abide by the dictates of or resists adherence to a group; a dissenter.*

That's what the dictionary says, but there's so much more to mavericks, especially if you have to manage them. IT managers who have dealt with mavericks say they are easy to spot. They're nonconformists who challenge the status quo. They're passionate about their work; creative, curious and energetic; willing to take risks; unafraid to stand alone or fight for an unpopular position; evangelical in their passion for change; and at once insightful and annoying.

Mavericks provide essential reality checks. Because they may refuse to follow a process they consider stupid, mavericks might be described as complainers, irritants and dissidents. But smart managers recognize their value.

"Mavericks help people think differently, and they do it by just showing up," says Richard Schroth, who directed strategic technology initiatives at various companies for nearly 30 years and is now CEO and president of Executive Insights Ltd. in Olney, Md.

"They're the ones that know the mousetrap will never be finished," says Andy Wihtol, president of Andrew Associates Executive Search in Lake Oswego, Ore., and an officer of the Society for Information Management. He says that average employees are "potential energy," but mavericks are "kinetic energy" that just needs to be harnessed.

"The maverick is not comfortable with the norm and is very comfortable influencing change," Wihtol says.

You'll find mavericks in every field, but some IT managers suspect that there are more per capita in technology than anywhere else. And they may be right, since IT attracts analytical thinkers who can spend their careers building and tinkering. If IT is a maverick magnet, that's good news. Mavericks keep an organization honest, and they're catalysts for change. But by their nature, they also challenge managers.

Tim McCracken, a former CIO who now leads the technology leadership practice at Tatum Partners LP, a consulting firm in Atlanta, describes a maverick he once supervised as "both frustrating and frustrated."

"He questioned everything that

*Continued on page 52*

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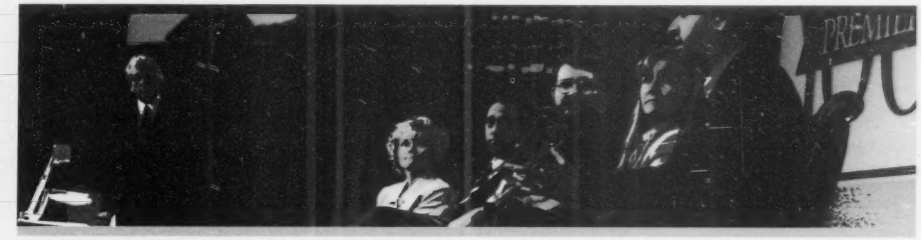

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could be questioned and challenged every position, yet he was an incredible talent and could see opportunities and risks. As a devil's advocate, he kept the rest of us out of potential disaster, and he could take a program from just being effective to extraordinary," says McCracken.

McCracken clearly remembers this iconoclast's behavior when IT was building a complex worldwide system to support a build-to-order manufacturing environment. "He would ask a lot of questions [and] was almost annoying in demanding an answer he could really understand," he says.

The maverick thought the system was being overdesigned. He was promoting simplicity. Gradually, his repeated questioning began to have an effect. "He would take us down paths through that questioning process," McCracken recalls, and ultimately his simpler design was implemented.

Despite mavericks' contributions, IT leaders are often clueless about how to manage them. "I see this over and over again. People say they want that person who is truly creative but then force the person into a very structured environment and criticize them for not being process-oriented," says Dennis McGuire, founder and chairman of TPI Inc., a sourcing advisory firm in The Woodlands, Texas.

If their energy and ideas aren't properly channeled, mavericks can become bored, unhappy or disruptive. Or they might just leave the company, taking their insights with them.

Here are some tips on how to work with your mavericks.

**Engage them.** Draw out their ideas, listen to their questions, and provide them with the information they need to fully understand initiatives rather than brushing them off, says Jody Berns, managing director of business systems at HSBC USA Inc., a New York-based financial services firm. "Good technology people do question what they're told, because a mistake can cost millions of dollars," she says. "You want people who question things. As management, we have to embrace that."

Berns has some personal insight into maverick behavior. She remembers a meeting early in her career where she peppered the CIO with so many questions that he later asked her boss whether she was a team player.

"I realized my intentions were misinterpreted," she says. "The reason I was questioning these things is I had a passion for doing what I do, and if that's misinterpreted, then I had to change my communication."

**Coach them.** Help mavericks learn to navigate office politics and present ideas in ways that are appropriate for the company's culture. After the CIO's wake-up call, Berns' supervisor taught her to be a more effective communicator — to listen better and bounce ideas off her boss or close co-workers before presenting her thoughts to large groups.

**Enlist peers.** Ask a colleague to do some peer mentoring. "You want somebody who is a little senior in the organization who has an open mind," says Schroth of Executive Insights. Peers can provide a range of help, from information on projects and company expectations to tips on focusing the maverick's energies and controlling his impulses — even if that means finding passions outside the company. Schroth knew one tech worker at a major pharmaceutical company who took up classical guitar and became a comedian on the side as a way to channel his excess energies.

**Work with their strengths.** Schroth suggests giving mavericks "their own place to play" — a role where their restlessness and skepticism can be channeled to good use, such as working on a team that's dealing with an intractable problem.

He tends to assign these people to groups where the work is dragging, as a way to stir up some new ideas and insights. Mavericks tend to be uninhibited, Schroth says. They'll give the group the nudge it needs to get the job done.

**Give them space.** Mavericks need challenges and the leeway to meet them, McGuire says. But set clear expectations early. Let a maverick know, for example, that he can develop an idea to a specific point but then must turn it over to others who may be more detail-oriented and thus better suited to completing it.

**Beware of the Peter Principle.** Mavericks often find that the demands of management don't mesh with their style. McCracken recalls one developer who was constantly praised for coming up with creative solutions. Based on that, McCracken promoted him to a management job, but it wasn't a good fit. His staff complained that the maverick was too hands-on, sometimes pushing them aside so he could do the work himself.

"Within months, he became unproductive and frustrated," McCracken says. But once he returned to his developer's job, he became successful again. McCracken has since concluded that many mavericks prefer and indeed thrive in hands-on "build and fix" roles.

**Show respect.** Don't label mavericks as complainers or troublemakers, Schroth says. Don't ignore them, either, by passing them over when making assignments to key committees and the like. "By ignoring these people, managers set a tension in the organization. It sends a message to other people that this is not a particularly tolerated way of behaving here," Schroth says.

**Draw the line.** Decide how much maverick behavior is too much. Wihtol remembers managing a female programmer who occasionally came to work in a Girl Scout uniform or a cheerleading outfit. He and her co-workers respected her technical skills enough to let her get away with it.

Clamping down or letting behavior slide depends on the situation, Wihtol adds. Assess your goals, your company's culture and your department's objectives when deciding how much eccentricity — or annoyance — you'll tolerate. "If the manager wants to encourage thinking off the edge, if they want to have people step up and be more exploratory, if they want more innovation and testing of the system in a positive and constructive way, they may allow the behavior to continue," he says.

On the other hand, managers working in organizations where IT workers have more interactions with business people or where shaking up the status quo isn't valued might need to rein in some maverick behavior.

Once you strike the right balance and learn to work with your mavericks rather than against them, you may find that they're a secret weapon in the war against mediocrity. ▸

*Pratt is a* Computerworld *contributing writer in Waltham, Mass. You can contact her at marykpratt@verizon.net.*

## Maverick Alert

**Paul J.H. Schoemaker**, research director at the Mack Center for Technological Innovation at the University of Pennsylvania's Wharton School, sees plenty of mavericks. He's noticed some traits that might help you spot your own:

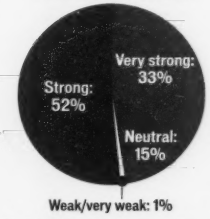
- They were right in the past when everyone else was wrong.
- They are independent-minded; they think and speak for themselves.
- They hang out with different groups than the rest of us – they may even live on a "different planet."
- They read and digest different books, movies and magazines than their peers.
- They play unusual sports.

– MARY K. PRATT

## QUICK HITS

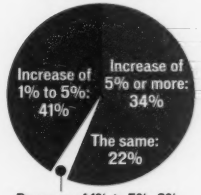
### CIO Confidence

**What best describes the current climate for your industry?**



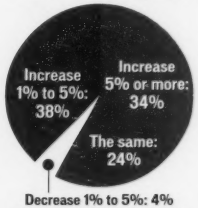

Weak/very weak: 1%

**How does your current IT spending compare with IT spending last year?**



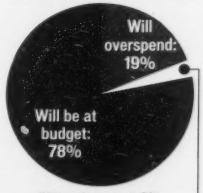

Decrease of 1% to 5%: 3%
(Decrease of 5% or more: 0%)

**Three business quarters from now, how will your IT spending compare with your current spending?**




Decrease 1% to 5%: 4%
(Decrease 5% or more: 0%)

**Looking ahead to the end of the year, how will your actual IT spending compare with your budget?**




Will underspend: 3%

**Base for all:** 160 CIOs at North American companies polled in November and December 2005. Percentages may not add up to 100 because of rounding.

SOURCE: FORRESTER RESEARCH INC., CAMBRIDGE, MASS.

BART PERKINS

# Charge-out: How to Do It Right

CHARGE-OUT systems allow the IT organization to charge other parts of the company for the IT resources they use. If properly implemented, charge-out — sometimes called chargeback — results in more effective use of IT resources, as well as more realistic and accurate business cases. If improperly implemented, charge-out frustrates everyone involved.

In the absence of charge-out, the IT organization is responsible for all IT costs. Business units have little incentive to provide accurate estimates in their business cases or to worry about cost overruns. With charge-out, business units are far more careful about projecting accurately, because the actual costs (and overruns) will come out of their own budgets.

There are many approaches to charge-out. Simplistic systems merely allocate the total IT costs based on some easy metric (e.g., business unit head count). This method is unfair, since some departments use far more IT resources than others. Moreover, it doesn't reward departments for reducing their resource consumption. More-advanced charge-out systems allocate IT costs based on resources actually used by each department.

Charge-out is not appropriate for everyone. It works best in large companies that are sophisticated in the ways they plan, manage and allocate IT resources. The company should already be making business trade-offs based on solid business cases, not impassioned pleas of "We've gotta have it." In addition, the company must be large enough to warrant the significant overhead that charge-out requires. This includes major internal IT systems: resource accounting, cost accounting and a standard chart of accounts. Don't even consider charge-out without these in place.

Charge-out provides the following benefits, enabling effective use of IT resources:

**Reduces consumption.** Operational services are monitored more carefully when the consuming department is charged for egregious consumption of bandwidth and disk space (massive e-mail files, music and video files, etc.) User departments are also more likely to cancel unnecessary services such as unused accounts when cancellation results in lower monthly costs.

**Minimizes status symbol gadgetry.** Many departments request the latest technology when it's "free." With charge-out, departments frequently forgo luxuries (flat-screen monitors, GPS equipment, BlackBerries and the like) when less-expensive options are sufficient.

**Reduces frivolous requests.** Users are less likely to request expensive services when each request results in a charge. One company's marketing department repeatedly submitted a set of complex queries against the entire consumer data warehouse, despite complaints from IT. After a new charge-out system made the marketing group pay for each query, those users refined their queries against a test database before searching the entire data warehouse.

**Enables better business planning.** Charge-out provides accurate accounting of all costs associated with developing and operating an IT system or service (hardware, software, staffing, telecommunications, outsourcing, etc.) This data allows more accurate estimates, prevents oversights and supports better decision-making.

**Helps protect against outsourcer overcharges.** Companies with charge-out know exactly what it costs to run their existing systems and have a good idea of what constitutes "reasonable" charges. They can quickly tell if their outsourcers are taking advantage of them.

These benefits make the concept difficult to resist, but charge-out systems also have some disadvantages:

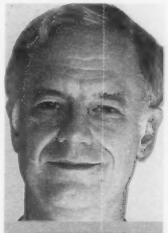
**Administration is complex and time-consuming and adds significant corporate (and IT) overhead.** The process of tracking and allocating costs requires automated systems, additional accounting policies and associated staff.

**IT must carefully match the demand for services with its available resources.** If the IT organization overestimates demand, it will need to reduce costs, potentially resulting in layoffs. If IT underestimates demand, it may need to engage contractors, usually at a higher rate. This often results in nasty political battles over who pays the difference.

**Poorly designed charge-out systems can create dysfunctional behavior.** One retailer had a fully depreciated (i.e., "free") point-of-sale system, supported by an IT team that was not charged to Store Operations. A new POS system would have reduced overall company costs dramatically, but Store Operations resisted upgrading because its own costs would have increased.

**Business units will be tempted to search for lower costs.** When they are charged for IT services, business units may feel free to purchase from cheaper sources. Nonstandard PCs and rogue software can result in a fragmented, complex and needlessly expensive infrastructure.

Charge-out is one of the hallmarks of a sophisticated organization. Well-designed charge-out systems help track, manage and forecast IT costs and resources more accurately and effectively. Leverage the benefits of charge-out into better business decisions for your company.



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- ATG Developers JO-060
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## CDC Data

31 private hospitals during a catastrophic event, said Barry Rhodes, associate director for technology and informatics in the Division of Emergency Preparedness and Response at the CDC's National Center for Public Health Informatics.

"The amount and rate of data streams to CDC is really unprecedented [compared with] what we have done in the past," he said. As part of the IT upgrade, the CDC is building a real-time data warehouse that will support 20TB to 30TB of data over the next 12 to 18 months, Rhodes said.

The developers are using extract, transform and load tools from Informatica Corp. to send data to the warehouse. They're also using business intelligence and data mining tools from SAS Institute Inc. to analyze the information coming from the hospitals.

The hospitals are sending the data — including patient symptoms, diagnoses and geographic information — to the CDC over the Internet as Web services messages using the ebXML standard to guarantee reliability and secure the exchange of the messages.

Beth Israel Deaconess Medical Center in Boston began sending feeds to the CDC on Dec. 21, about a month after the agency asked it to join the program, said John Halamka, CIO at the hospital's parent company, CareGroup Healthcare System. The hospital now sends the data to the CDC as Web services every 15 minutes, he said.

"This is really the first time in history there have been real-time hospital connections to public health [agencies]," said Halamka, who's also a *Computerworld* columnist. Beth Israel spent $50,000 to build its piece of the system, he added.

The CDC expects the emergency room data to provide it with "situational awareness" during a pandemic or bioterrorist attack, Rhodes said. "It is very important that we have information from hospitals on a real-time or near-real-time basis so we can get a snapshot of what is going on at that moment," he said.

> **This is really the first time in history there have been real-time hospital connections to public health [agencies].**
>
> **JOHN HALAMKA,** CIO, CAREGROUP HEALTHCARE SYSTEM

The data feeds will be used to determine how many beds at a hospital are filled, how fast a disease is spreading and if the CDC's interventions are working, he added.

The CDC declined to identify the hospitals participating in the program.

The effort is part of the CDC's BioSense initiative, which was launched to improve the detection and situational awareness of national catastrophic events.

The project will work in tandem with a program for early event detection that uses data from U.S. Department of Veterans Affairs and other U.S. Department of Defense health care providers to determine whether an event is occurring, according to Rhodes. The event-detection program is also part of the BioSense initiative.

Eric Brown, an analyst at Forrester Research Inc. in Cambridge, Mass., said that BioSense will replace the current paper-based process under which hospitals first report anomalies to state public health agencies before they're forwarded to the CDC, which ends up with "stale" data.

"In health care, there has not been a coordinated effort of this size to gather real-time clinical events . . . to get a real-time snapshot of health care in the U.S.," Brown said.

"Avian bird flu is not the first time the public has been gripped with panic of a pandemic," he continued. "But we have never been able to take this type of technology-driven response to it."

*Continued from page 1*

## Back Door

whose company is headquartered in Fort Wayne as well.

Uncovering the intrusion led to the discovery of "a backdoor realm called MIE Private, with a username of MIE, that would completely bypass all of Webchart's front-end authentication," he explained.

Plesko said that in one instance, two numerals were appended to the end of a database query to make it crash. In another case, a print-server directory was deleted from the system.

The hacker subsequently appears to have used the backdoor access to set up or modify user accounts to also allow conventional access to Webchart, said Benjamin Kessler, a senior network consultant at Midwest Network Services Group LLC, a network infrastructure and security consulting firm in Fort Wayne that helped the clinic investigate the incident.

### Means of Entry

According to Kessler, an analysis of system and firewall logs showed that the person accessing the Webchart system came in via a proxy server at a local hospital. The systems at ONE were connected to the hospital's network via a virtual private network.

**Anatomy Of a Hack**

1. Orthopaedics Northeast experiences **sudden performance degradation** on a clinical document management system.
2. Troubleshooting reveals that the system's underlying MySQL database engine has been **deliberately tampered with.**
3. Further internal investigations show that **the attacker came in via a back door** embedded in the software.
4. **The attacks are traced back to systems at Medical Informatics Engineering,** the vendor that developed the software.
5. **The FBI is called in to investigate.** MIE denies any involvement and says it never embeds back doors in its software.

The hospital's logs showed that the proxy server had been accessed from a Windows Server 2003 system at another clinic, Kessler said. That system, in turn, appeared to have been accessed from within MIE's network, he added.

Tracing the alleged route taken by the intruder "required quite a lot of coordination work with the other entities that had been abused along the way," Kessler said.

MIE and triPractix are rivals in the Indiana health care IT market. In the past, ONE was a major user of MIE's software products. But last November, the clinic decided to replace the MIE products with electronic medical records technology from General Electric Co.'s GE Healthcare unit. Shortly thereafter, MIE stopped supporting ONE's Webchart implementation, Plesko said. TriPractix is a reseller of the GE software.

Eric Jones, MIE's chief operating officer, said that the software developer is fully cooperating with the FBI and that it wasn't responsible for the database changes at ONE or the placement of the back door in the clinic's system.

"We don't use back doors in our software, period," Jones said. "We don't believe in them." MIE officials "are hopeful that the investigation will be wrapped up soon," he added. "We don't expect that anything would come of this."

Raymond Kusisto, the clinic's CEO, said via e-mail that ONE had little to add about the hacking incident beyond the information that was disclosed by Plesko. "Once the FBI investigation is complete, we'll hopefully learn some things that may be appropriate to share," Kusisto said.

An FBI spokeswoman in the agency's Indianapolis office declined to confirm or deny that an investigation is taking place, citing U.S. Department of Justice policies.

The incident highlights the need for companies to pay special attention to the dangers posed by embedded back doors, Kessler said. It also shows, he added, that when IT managers set up trusted VPN connections with third parties, "you are indirectly trusting the people they are trusting."

Locating back doors built into enterprise software can be difficult, said Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa.

Lindstrom noted that IT and security managers can take measures to mitigate the risks posed by back doors, such as monitoring systems at the database and application levels, validating the nature and integrity of database queries, and tracking user activity.

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BPA ABM RED TAG

FRANK HAYES ■ FRANKLY SPEAKING

# Hatching IPv6

THERE'S no rush to convert the world to IPv6, the next-generation Internet protocol. So concludes a new report from the U.S. Department of Commerce's IPv6 Task Force, which says going slow on IPv6 is just fine. Or, in the report's snooze-inducing language: "The Task Force therefore believes that aggressive government action to accelerate deployment of IPv6 by the private sector is not warranted at this time."

Of course, the biggest push the feds could give IPv6 would be to use it themselves. Which *will* happen by mid-2008, according to an Office of Management and Budget policy directive.

What's going on? Simple: The chickens and eggs are at it again.

You know the chicken-and-egg problem: IPv6 is a better protocol for the Internet, but like lots of new technologies, it's competing against an installed base. (OK, new-ish — IPv6 is a decade old.) The installed base is IPv4, which turns 25 this year and handles the vast majority of Internet traffic.

There's lots of IPv6-capable equipment out there. But there's even more IPv4-only equipment, and IPv6 gear also works in IPv4, so that's the default. The advantages of IPv6 only come when a connection is end-to-end IPv6. But converting to IPv6 is costly. And until enough networks are converted — especially the big one, the public Internet — we can't reap IPv6's advantages to justify the cost. No chickens, no eggs. No eggs, no chickens.

Which brings us back to the dueling statements from the Commerce Department and the OMB. The Commerce Department's task force points out correctly that in the near term — say, the next five years — we won't get much advantage from IPv6. In fact, "premature" adoption could result in higher costs and even reduced Internet security. (You can read the whole report at *http://nist.gov/director/prog-ofc/IPv6-final.pdf.*)

But the OMB is gung-ho, not go-slow. Last June, the OMB announced that federal agencies will be required to use IPv6 by June 2008. In fact, those agencies are already inventorying their existing IPv6-capable equipment and analyzing the financial impact and risks of a switch.

Who will win this battle of the bureaucrats? The OMB will — it's requiring, not recommending. True, it will cost more to make a hard push to IPv6 than it will to wait for everyone else to go first. Yes, there will be rough spots, including security glitches. And sure, the schedule will slip; on June 30, 2008, the U.S. government won't likely be end-to-end IPv6.

**FRANK HAYES,** *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com.**

But the IPv6 chicken-and-egg problem will be history. IPv6 will be rolling. And it won't be going slowly.

Why does this matter to corporate IT? Because when the world's biggest IT buyer goes to IPv6, then products, support and knowledge will follow. That government transition will force the long-delayed shift on companies that connect with the government. They, in turn, will force a shift on their other business partners.

Like Wal-Mart with RFID, the feds will mandate IPv6. And ready or not, it will come.

But that's not all. A big federal shift to IPv6 will soak up available expertise. It'll be like Y2k all over again, but this time, you'll be short of network administrators who can configure IPv6 addresses instead of Cobol programmers who can change date fields.

Wait until the last minute, and you'll be frantically scratching around for overpriced IPv6 expertise and scrambling to convert every device on your networks to IPv6.

That means the time to start preparing is now. You know the timeline. When that switch to IPv6 ripples out from federal agencies to government contractors and down through supply chains starting in 2008, all you want left to do is to throw the switch making your IPv6 address public.

How close are you to that? Your answer will define just how many eggs you'll have to break when the IPv6 chickens come home to roost. ▸

## Useless Information

Pilot fish gets a call from a consultant who says he's supposed to access certain files on a server. How are they used? consultant asks. Fish explains that File 1 gets additions daily. Then, every Tuesday, it's copied to File 2, and File 1 is cleared. Then File 1 gets daily information written to it again for a week. A few days later, consultant calls again. File 1 is empty – was it deleted? Fish patiently explains the rotation again. Consultant: "Oh yeah, you told me that the other day, but I thought it was useless information that I didn't need, so I deleted it from my brain."

SHARK TANK

### Oops!

**It's the eve of a much-publicized computer virus attack, and this pilot fish sends out a reminder to all users not to open any e-mails promising dirty pictures. Next day, he gets a distress call from an engineer. "His laptop had crashed," says fish. "He had skipped over my warning e-mail, which arrived first in his in-box, and opened the pornographic attachment to start his day! Much to his embarrassment, he had to explain to my boss what had happened in order to get IT to expedite the re-imaging of his laptop."**

### But Thanks For Asking

**At the daily status meeting with users, IT pilot fish reports that the mainframe is running slowly because of month-end jobs. What does that mean? users ask. "I explained that there were more jobs running on the mainframe, which caused things to run longer and impacted getting things done in the normal time period," fish says. "Again they asked, so that means *what*? I then said slowly, 'Jobs . . . are . . . taking . . . longer.' They asked no further questions."**

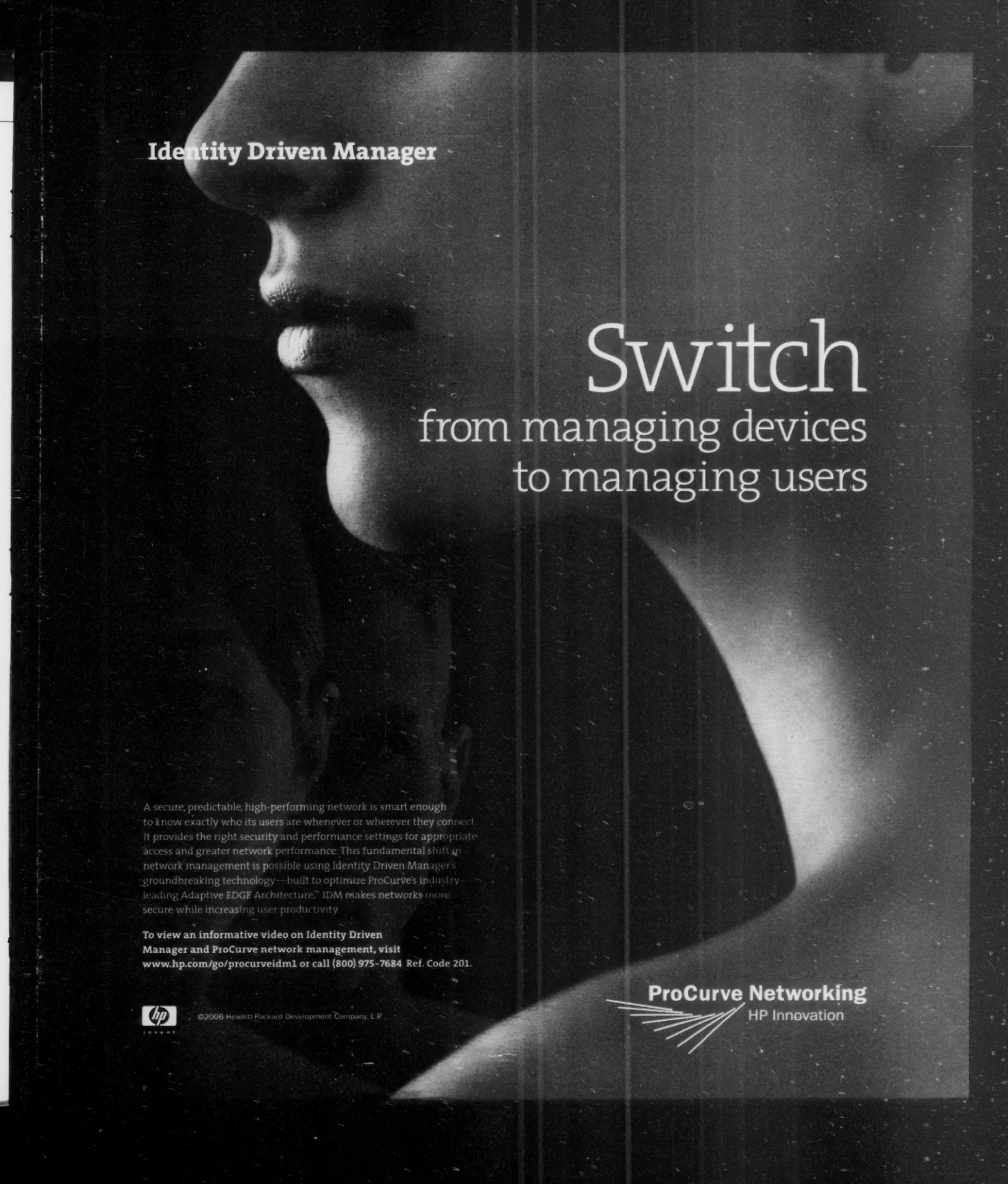
### They Also Serve

**College student pilot fish looking for a part-time IT job is excited when he gets a call: "We found your résumé online and saw you were interested in being a server." Fish: As in someone who waits on people? "Yes." No, I'm looking for a job in IT where I can work *on* a server, not *be* a server. "Oh, I'm sorry. I wonder how that happened."**

### Hear No Evil

**PC is beeping continually, so support pilot fish calls in the PC specialist. "He opened the case, and when he left, there was no more beeping," fish reports. "Curious, I asked him what the problem was. He said he didn't know. What about the beeping? He disconnected the internal speaker so you couldn't hear it anymore. Within a few days, the PC crashed. Maybe the beeping was trying to tell him something?"**

**TELL SHARKY SOMETHING.** Send your true tale of IT life to me at **sharky@computerworld.com.** You'll snag a snazzy Shark shirt if I use it. And check out the daily feed, browse the Sharkives and sign up for Shark Tank home delivery at **computerworld.com/sharky.**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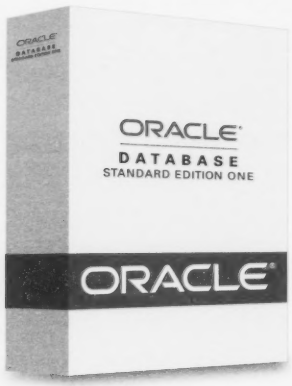


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